

Northeast Landscape Plan Update
June 12, 2012 Trends Exploration
Workshop Summary
August 16, 2012

Prepared by:
University of Minnesota Boreal Forest and Community Resilience Project
<http://environment.umn.edu/borealforest/index.html>

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Executive Summary

On June 12, 2012, University of Minnesota Boreal Forest and Community Resilience Project staff facilitated a workshop for the Northeast Landscape Plan Update Planning Committee in an effort to better understand participants' perspectives on trends and implications in topic areas relevant to the Northeast landscape and Northeast Landscape Plan Update. This document provides a summary of the workshop activities, a synthesis of trends and implications, and a prioritization of trends as they relate to the Northeast Landscape Plan Update.

The majority of the day was spent discussing trends and implications in twelve topic areas: Administration and Funding; Climate Change; Demographics; Development and Ownership; Ecological Health and Condition; *Economic*; Forest Products; *Invasive Species*; Tourism; *Tribal Trends*; Water and Fisheries; and Wildlife. Nine topic areas were identified during expert presentations from earlier meetings, and three additional topics were proposed by participants during the day of the workshop (indicated in italics).

From this workshop, we learned that nearly all of the 30 trends identified in the twelve topics were deemed important to the Northeast landscape, and most participants felt the trends and implications were relatively immediate concerns. While there was some diversity in participant responses, most respondents indicated a number of the trends should be addressed in the Northeast Landscape Plan Update, and the crucial time frame for all of the trends and their potential impact was in the next twenty years.

The Trends Exploration Workshop and this summary on key topics and trends will provide guidance to the next iteration of the Minnesota Forest Resources Council Northeast Landscape Plan. The workshop provided an opportunity to synthesize relevant trends impacting the northeast landscape and to begin exploring how they might be addressed in the plan update.

Section One: Report Overview

On June 12, 2012, University of Minnesota Boreal Forest and Community Resilience Project staff facilitated a workshop for the Northeast Landscape Plan Update Planning Committee in an effort to better understand participants' perspectives on trends and implications in topic areas relevant to the Northeast landscape and Northeast Landscape Plan Update. The workshop followed on a series of expert presentations that highlighted current data and relevant trends affecting a wide range of topics related to the plan update. The workshop activities were developed with the intent of providing participants an opportunity to identify, assess, and prioritize key trends and their implications relative to the northeast landscape and plan update. The workshop outcomes will feed directly into the content and priorities reflected in the Northeast Landscape Plan Update.

This document provides a summary of the workshop activities, a synthesis of trends and implications, and a prioritization of trends as they relate to the Northeast Landscape Plan Update. It is organized into three sections: an overview of the workshop activities, discussion and voting results by topic, and a final section that covers reflections, limitations, and a summary.

Workshop Activities

The workshop began with a presentation that summarized the trends identified in earlier meetings and outlined the day's activities. The trends outlined in the presentation were identified by analyzing the worksheets that participants completed during the expert presentations at the February, April, and May planning committee meetings.

STEP 1. Following the initial workshop presentation, participants engaged in three "lightning" rounds of discussion. Twelve different topic areas were offered; nine were preliminarily identified by participants in response to the expert presentations during the February, April, and May planning committee meetings, and three additional topic areas were proposed by participants at the beginning of the workshop activity. The following is a list of topic areas. Topics added by participants are listed in *italics*.

- Administration and Funding
- Climate Change
- Demographics
- Development and Ownership
- Ecological Health and Condition
- *Economic*
- Forest Products
- *Invasive Species*
- Tourism
- *Tribal Trends*
- Water and Fisheries
- Wildlife

The 12 topics noted above, were distributed across three rounds of discussion. Participants could choose to engage in discussions related to three topics – one in each round. Participants also had the option of floating among different discussions during each round, which a few did. For their topic, participants were asked to respond to two questions during each of the three rounds of discussion:

- *What are the key trends relative to this topic that might be relevant to the Northeast Landscape Plan Update?*
- *What are the implications of each of these trends in the northeast landscape?*

Table facilitators took notes on the discussion, and organized the information into trends and implications. During the last five minutes of each discussion round, participants voted on the trends identified during the small group discussion. Participants used three dots to vote on the trends they felt were most important; participants could affix all three dots to one trend, one dot to three different trends, etc. The intent of the lightning trends discussion was twofold: (1) to identify trends and implications in a given topic area and (2) provide participants an opportunity to prioritize trends based on importance to the Northeast landscape. The results of the discussion are presented in Section Two, and organized alphabetically by topic area.

The images below and on the next page show small groups discussing trends and implications related to key topic areas.





STEP 2: After three rounds of discussion, the top two trends from each small group discussion were populated into a key pad voting system. In several of the discussions, several trends received equal votes and thus each of the tied trends was moved forward to the voting round. Participants were asked two questions related to each of the 30 top trends generated from the small group discussions:

- *For this trend, what is the crucial time frame? (responses: 1-10 years, 11-20 years, 21-50 years, 51-100 years, more than 100 years, don't know)*

- *How important is it to address this trend in the Northeast Landscape Plan Update? (responses: scale of 1 not important to 10 very important)*

Voting results are also presented in Section Two of this report. Trends that received the same number of votes are indicated with a “t” to indicate the tie. The results are presented in bar chart format; the mean (average), mode (most frequent response), standard deviation (distribution of responses – a high number suggests a high distribution), and number of voting participants are presented below each figure. Additionally, summary tables that allow readers to compare trends are presented at the end of Section Three.

STEP 3: To conclude the workshop activity, participants were asked three final questions during an open discussion with the full group:

- *Is there anything that surprised you related to the results of the discussion?*
- *Are there important trends that are missing from these topical areas that need to be addressed?*
- *Among the trends identified by the groups, where is there significant uncertainty about the trend or its potential implications and what is the source of that uncertainty?*

Responses to the concluding questions are presented in Section Three of this report.

Section Two: Results by Discussion Topic

The results of the twelve small group discussions are presented here as trends and implications. In the tables below, trends in **bold text** received the most votes and based on voting with dots, were used for the large group key pad voting exercise. Discussion participants were also asked to identify implications that were associated with each of the trends. The implications are listed in the tables below, with the numbers behind each implication indicating the trend with which it is associated. The results of keypad voting are also presented in this section for each of the top 30 trends that emerged from the small group discussions. For comparison across the trends highlighted in Section 2, summary tables were created and are available at the end of Section Three. The upcoming pages summarize trends discussions and key pad voting, organized by discussion topic area.

Topic 1. Administration and Funding

Discussion Summary

Six people engaged in the conversation on Administration and Funding.

Table 1. Notes from Administration and Funding Discussion

Trends	Implications
<ol style="list-style-type: none"> 1. Need for more collaboration (7 votes) <ul style="list-style-type: none"> ○ NE Region – unique opportunities ○ What is best way to apply for funding? ○ Need to collaborate on not just veg. mgmt., but also recreation and education ○ Authority, commitment to collaborative groups 2. Not as effective in implementing NE LA Plan (5 votes) 3. Increasing demand for accountability (3 votes) 4. Decrease in public funds for natural resource management (state, fed) (2 votes) 5. Increased competition for Federal funds, not as competitive for state constitutional (Legacy) funds. \$ (1 vote) 6. Decreasing autonomy comes with collaboration and accountability 	<ul style="list-style-type: none"> ● Education programs ex (4) ● Decrease in \$ for programs, increase in \$ fees (4) ● Shifts in perceptions on public lands (4) ● User fees (4) ● Appropriated funds down (4) ● NE coordination committee has to step up its commitment (1) ● Need more consistent capacity (1) ● Need for more effective, useful monitoring, ability to tell story (2) ● Authority / commitment by partners (2) ● Accountability (2) ● Need consistent standards (2) ● Need for structure, Memorandums of understanding (M.O.U.s), charters, agreements (5) ● Takes longer to do collaborative projects (5) ● Need for more communication between partners and within organizations (3) ● Need for ability to move fast, get things done (5)

Voting Summary

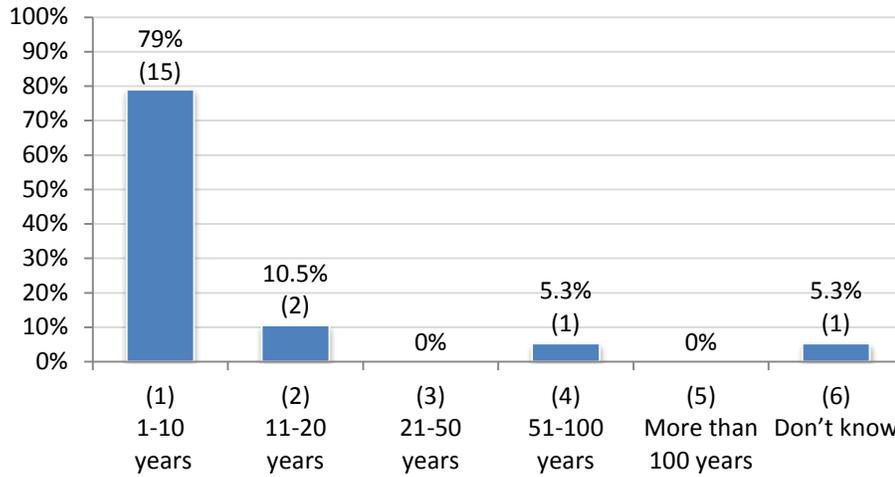
Two trends were identified as top trends during the Administration and Funding small group discussion.

1. Need for more collaboration; and
2. Not as effective at implementation of the NE LA Plan.

The following figures illustrate the large group key pad voting results for the two questions asked for each trend.

Trend #1: Need for more collaboration.

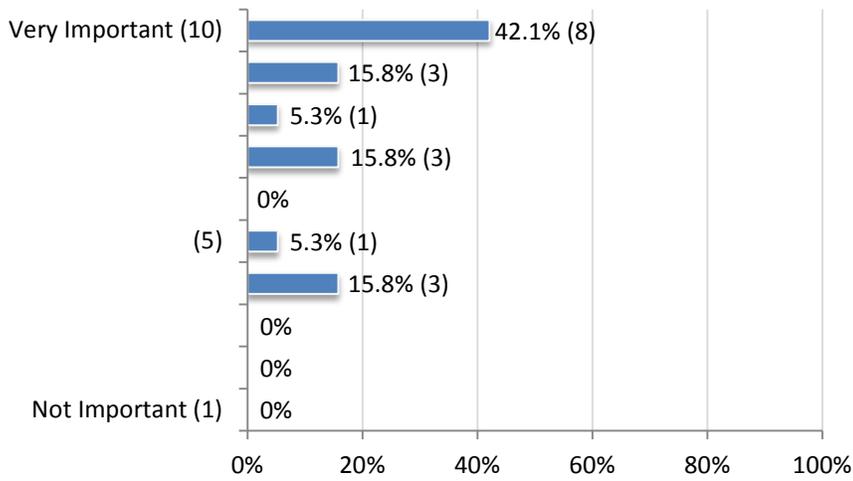
Figure 1. For this trend, *need for more collaboration*, what is the crucial time frame?



n = 19 Mean*: 1.28 SD*: 0.75 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

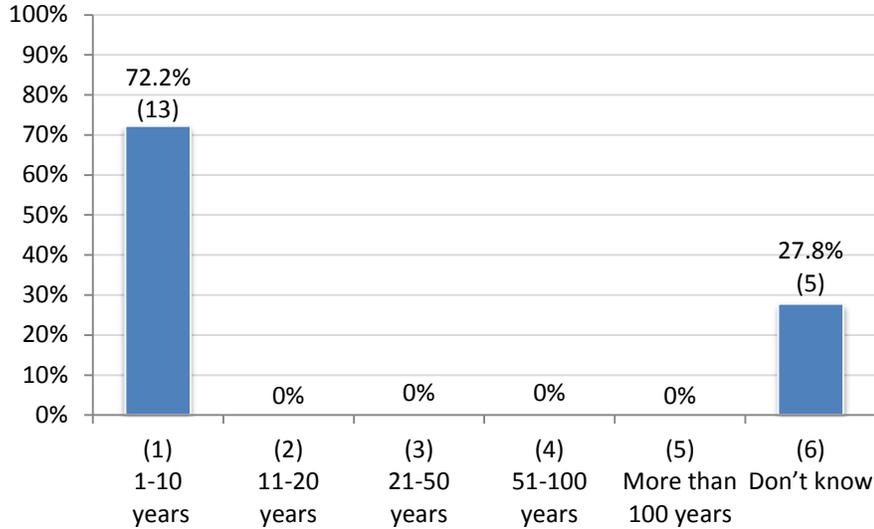
Figure 2. How important is it to address *the need for more collaboration* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 8.02 SD: 2.30 Mode: 10

Trend #2: Not as effective at implementation of the NE LA Plan.

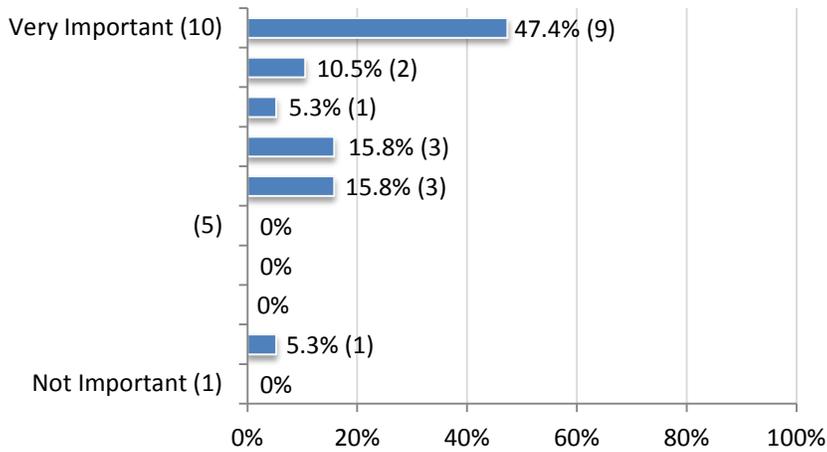
Figure 3. For this trend, *not as effective in implementation of the NE Landscape Plan*, what is the crucial time frame?



n = 19 Mean*: 1.00 SD*: 0.00 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Figure 4. How important is it to address *not as effective in implementation of the NE Landscape Plan* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 8.26 SD: 2.21 Mode: 10

Topic 2. Climate Change

Discussion Summary

Nine people engaged in the conversation on Climate Change.

Table 2. Notes from Climate Change Discussion

Trends	Implications
<ol style="list-style-type: none"> 1. Uncertainty is increasingly recognized (8 votes) 2. Species shifts 3. Phenological changes (w/ #6 11 votes) 4. Warmer water (4 votes) 5. Economic valuation carbon cycle (3 votes) 6. <u>I</u>S changing and accelerating (2 votes) 7. More extreme weather 8. Increased rain and snow 9. Less severe winter (warmer) 10. Changes in natural disturbance regimes 11. Increase in climate models 12. Increase in public awareness / education 	<ul style="list-style-type: none"> • Increase in water runoff / drainage issues (7,8) • Need for continuous learning / adaptive management / tech. (1,2,5,10) • Changing plant / eco community (2,3,10) • Insect outbreaks (6,9) • Changing ecosystem functions (1,2,3,10,11) • New market for forest (5) • Highlighted ecosystem services (1,5) • Change in forest products (2,3) • Change in habitat conditions (2,3,10) • Change in recreation opportunities (2,3,7,8,9,11) • Funding for research (5,7) • Constraints and change in management practices (9) • Loss of species (native) (11) • Species migration lags climate change (2) • Seed zones (2)

Voting Summary

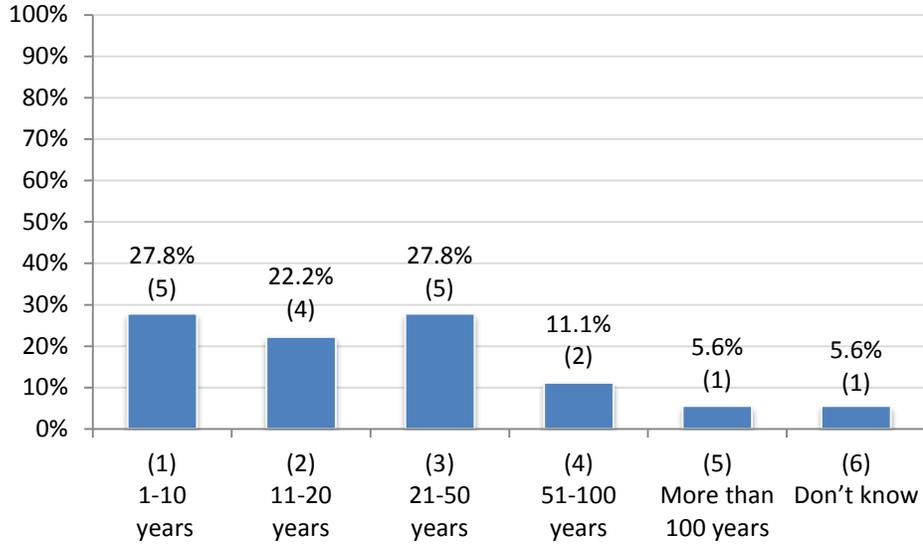
Two trends were identified as top trends in Climate Change during the small group discussion.

1. Species shifts and phenological changes; and
2. Uncertainty is increasingly recognized.

The following figures illustrate the large group voting results for the two questions asked for each trend.

Trend #1: Species shifts and phenological changes.

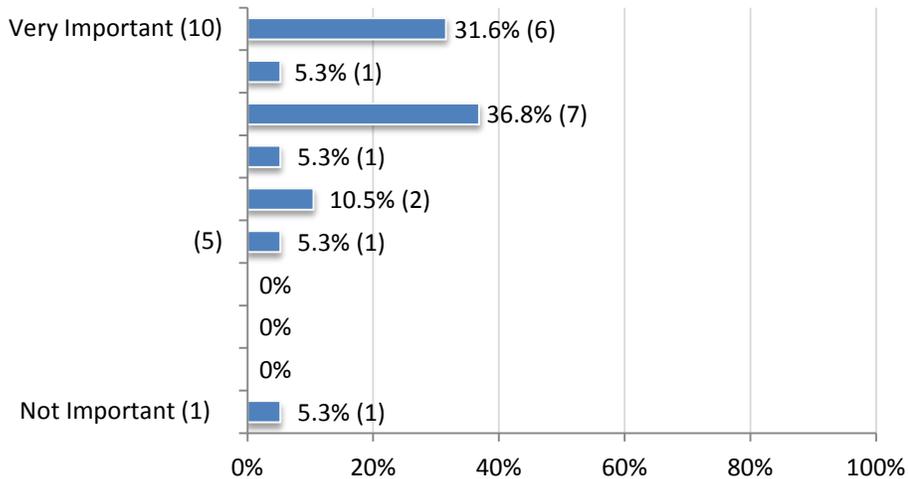
Figure 5. For this trend, *species shifts and phenological changes*, what is the crucial time frame?



n = 18 Mean: 2.28 SD*: 1.23 Mode: 1,3

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

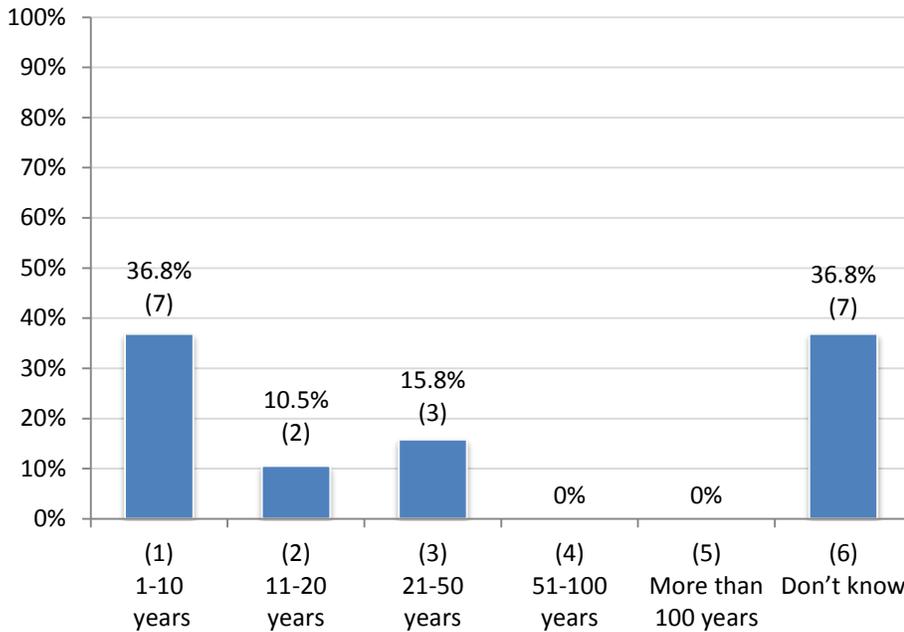
Figure 6. How important is it to address *species shift and phenological changes* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 7.89 SD: 2.26 Mode: 8

Trend #2: Uncertainty is increasingly recognized.

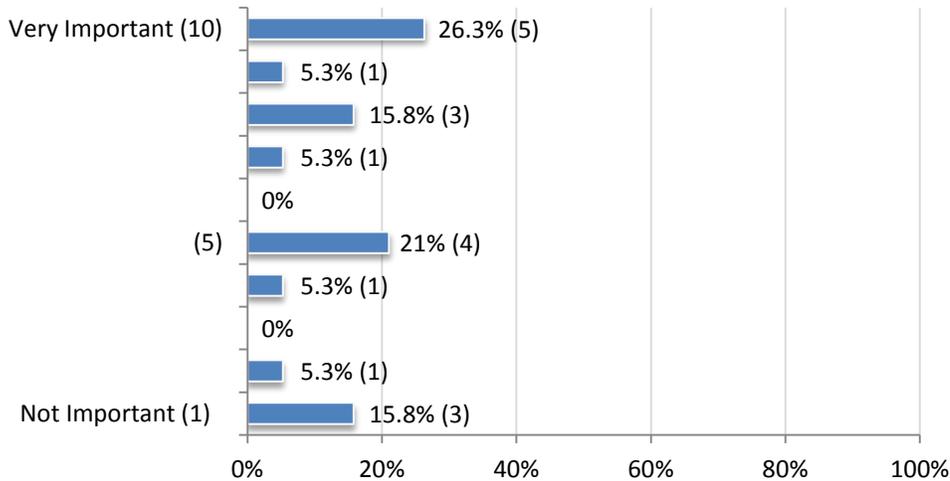
Figure 7. For this trend, *uncertainty is increasingly recognized*, what is the crucial time frame?



n = 19 Mean: 1.67 SD*: 0.89 Mode: 1,6

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Figure 8. How important is it to address *uncertainty is increasingly recognized* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean:v6.26 SD: 3.33 Mode: 10

Topic 3. Demographics

Discussion Summary

The Demographics discussion started with four people, and ended with three people.

Table 3. Notes from Demographics Discussion

Trends	Implications
<ol style="list-style-type: none"> 1. Hard rock / new mining (6 votes) 2. Aging population (2 votes) 3. Loss of younger population (2 votes) 4. Decrease in educational opportunities (1 vote) 5. Increase in % of vacation homeowners 6. Declining population (out migration) 7. Changing educational focus (jobs oriented) 8. Increase in % women landowners 	<ul style="list-style-type: none"> • Losing workforce (2,3,4,5,6) • Concentrating population (2,5) • Tax base (2,3) • Land use (shift away from income producing) (5,8) • Loss of schools (6) • Increased tax burden for residents (2,3,5) • Different aspects of management (of interest) (increase in traditional perspectives?) (1,7) • Pockets of population growth (1,5)

Voting Summary

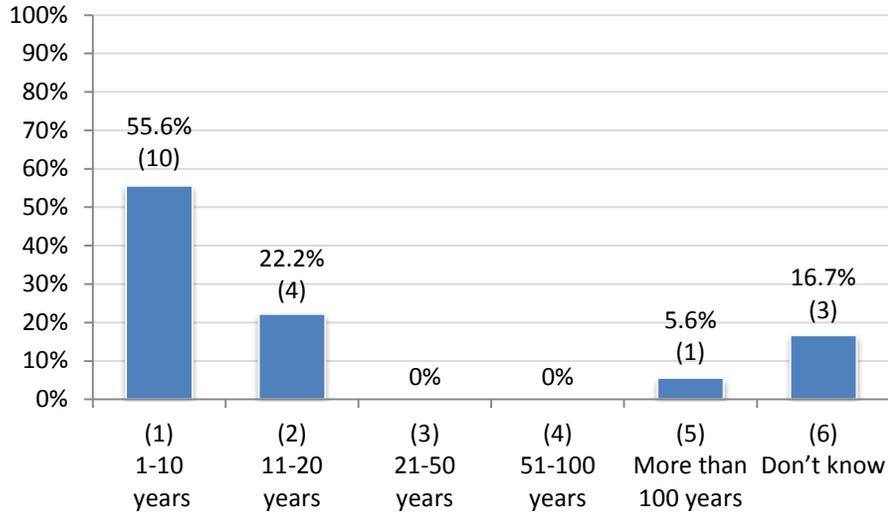
Two trends were identified as top trends in Demographics during the small group discussion.

1. Hard rock/new mining; and
2. Aging population.

The following figures illustrate the large group voting results for the two questions asked for each trend.

Trend #1: Hard rock/new mining.

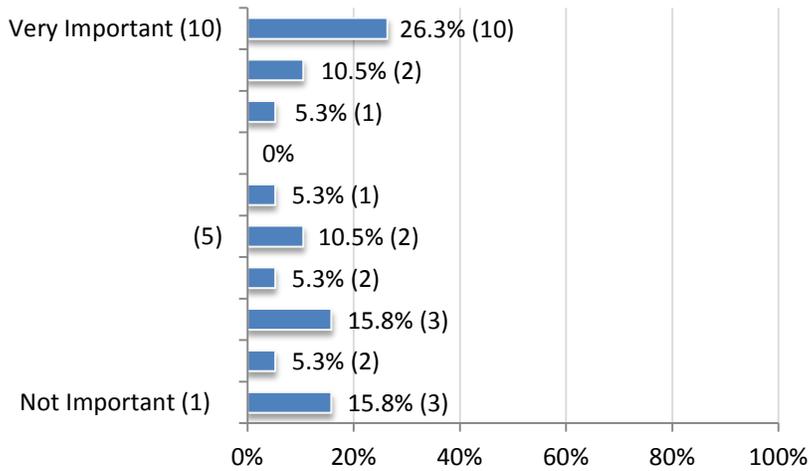
Figure 9. For this trend, *hard rock/new mining*, what is the crucial time frame?



n = 18 Mean: 1.53 SD*: 1.06 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

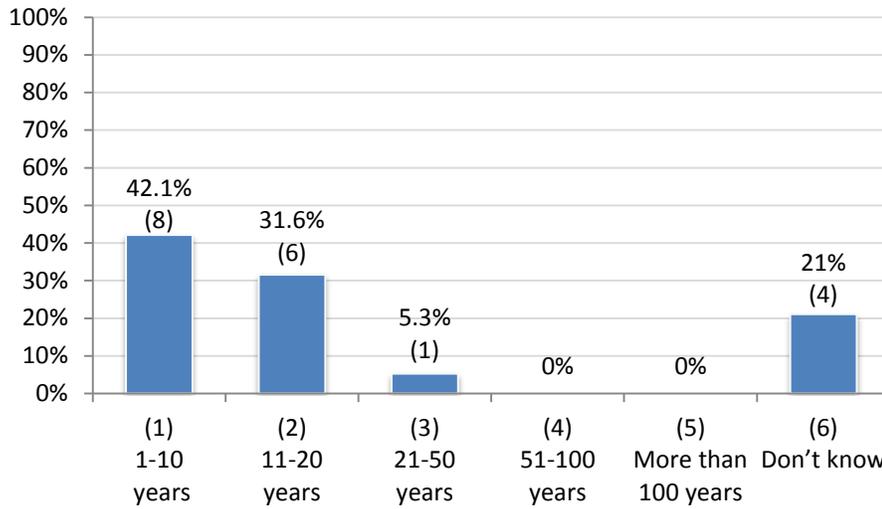
Figure 10. How important is it to address *hard rock/new mining* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 5.80 SD: 3.54 Mode: 10

Trend #2: Aging population.

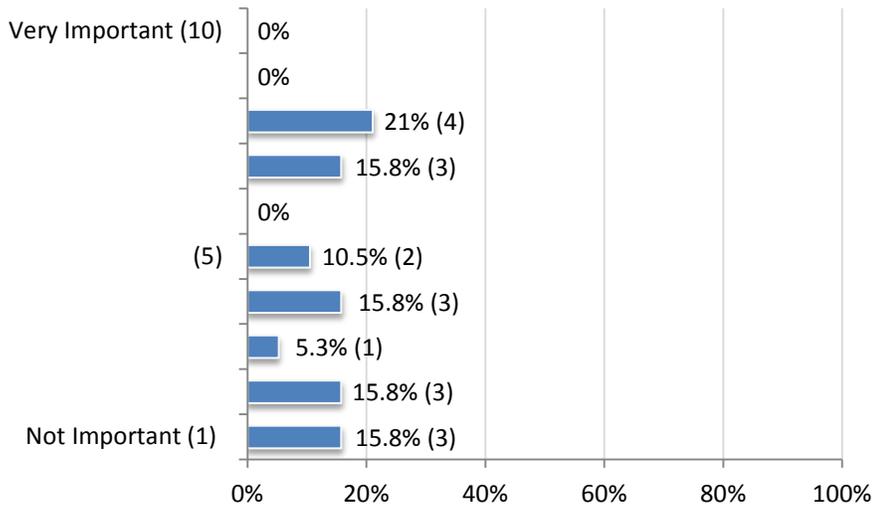
Figure 11. For this trend, *aging population*, what is the crucial time frame?



n = 19 Mean: 1.53 SD*: 0.64 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Figure 12. How important is it to address *aging population* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 4.58 SD: 2.65 Mode: 8

Topic 4. Development and Ownership

Discussion Summary

The Development and Ownership discussion started with seven people, and ended with eight people.

Table 4. Notes from Development and Ownership Discussion

Trends	Implications
<ol style="list-style-type: none"> 1. Increase in small parcels (10 votes) 2. Increased mining pressure (5 votes) 3. Increase in absentee owners and seasonal owners (4 votes) 4. Increase in large homes (2 votes) 	<ul style="list-style-type: none"> • Harder to manage forests (1) • Decreased accessibility to public (1) • Greater # of management goals / area (time scales differ) (1) • Decreased scale of economies (1) • Increased infrastructure (2,4) • Increased need for education of owners on forest management (4) • Fragmentation (1) • Decreased environmental quality (1) • Increase in property taxes (1,2) • Jobs for residents (short term, 50 years) (2) • Change in management priorities (2)

Voting Summary

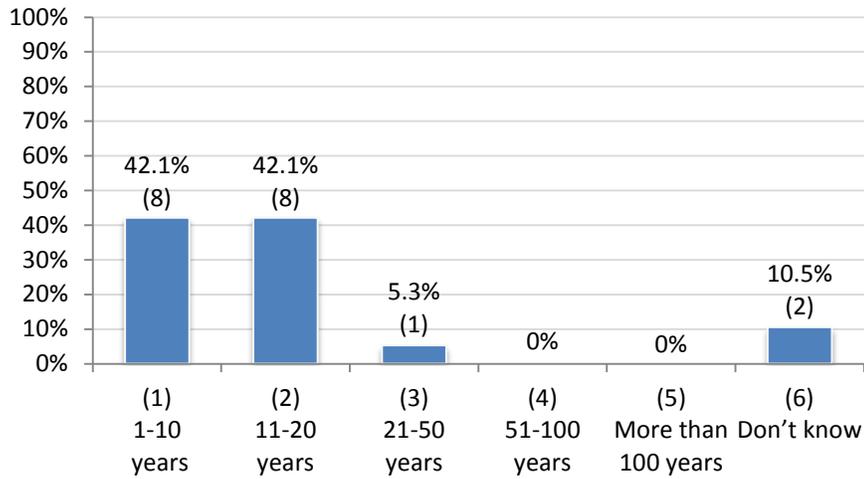
Two trends were identified as top trends in Development and Ownership during the small group discussion.

1. Increase in small parcels; and
2. Increase in mining pressure.

The following figures illustrate the large group voting results for the two questions asked for each trend.

Trend #1: Increase in small parcels.

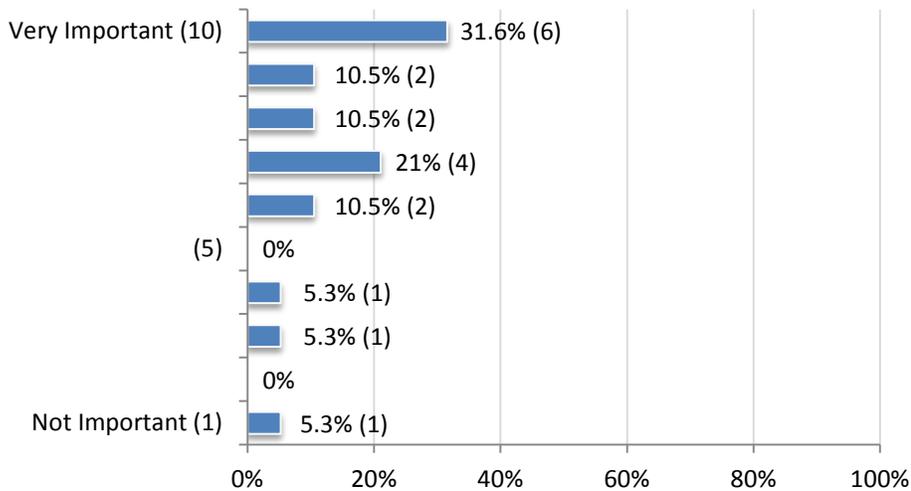
Figure 13. For this trend, *increase in small parcels*, what is the crucial time frame?



n = 19 Mean: 1.59 SD*: 0.62 Mode: 1,2

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

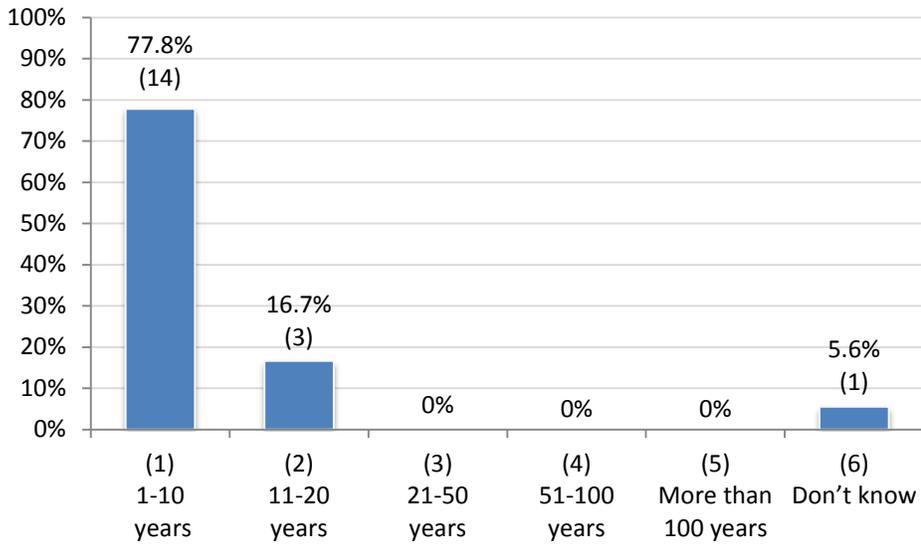
Figure 14. How important is it to address *the increase in small parcels* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 7.47 SD: 2.61 Mode: 10

Trend #2: Increase in mining pressure.

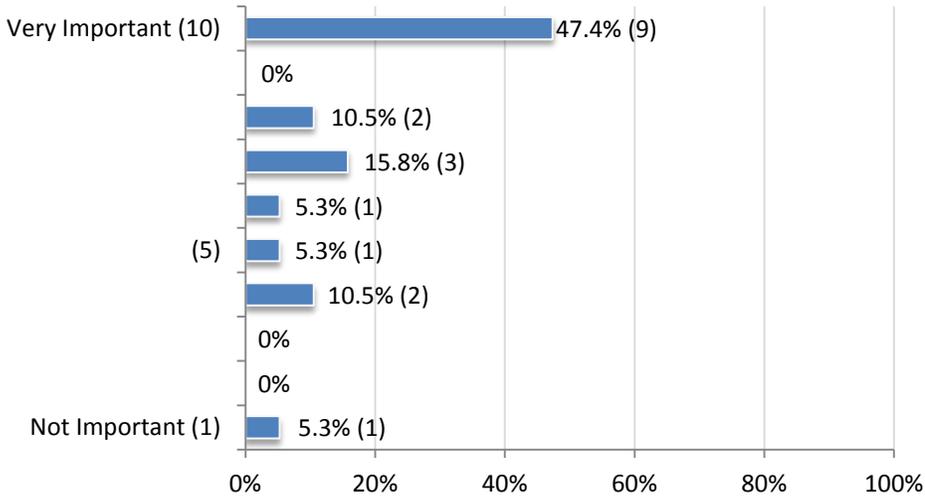
Figure 15. For this trend, *increase in mining pressure*, what is the crucial time frame?



n = 18 Mean: 1.18 SD*: 0.39 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Figure 16. How important is it to address *the increase in mining pressure* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 7.74 SD: 2.70 Mode: 10

Topic 5. Ecological Health and Condition

Discussion Summary

The Ecological Health and Condition discussion started with four people, and ended with five people.

Table 5. Notes from Ecological Health and Condition Discussion

Trends	Implications
<ol style="list-style-type: none"> 1. Landscape scale NPC distribution To include patch size, growth states, connectivity, current conditions – outside Range of natural variation (RNV) (5 votes) 2. Ecological classes used by managers – different probably compatible (4 votes) 3. Large scale disturbance. dominant – wind storms, fire (3 votes) 4. Long-term homogenization of forest conditions (composition, structure, spatial patterns) 	<ul style="list-style-type: none"> • Changes in plant and wildlife populations (1) • Potential loss of resiliency in forest communities (4) • Potential decline in ecosystem services and productivity (4) • Smaller patch sizes, less variability (4) • More vulnerable to stressors (4) • More laborious communication (2) • Not always compatible (2) • Less consistent mgmt. – watch for improvement. (2) • Differences in defining objectives (2) • Differences in measuring success (2) • Variation in ecological classes in decline (2) • Need crosswalk tables to improve communication (2) • Clarence’s presentation on monitoring – great need to improve monitoring (2) • Design plan to address monitoring (2) • If we lose industry. could be bad (2 or 3?) • Need for more coordination (3) • Connection to species (3)

Voting Summary

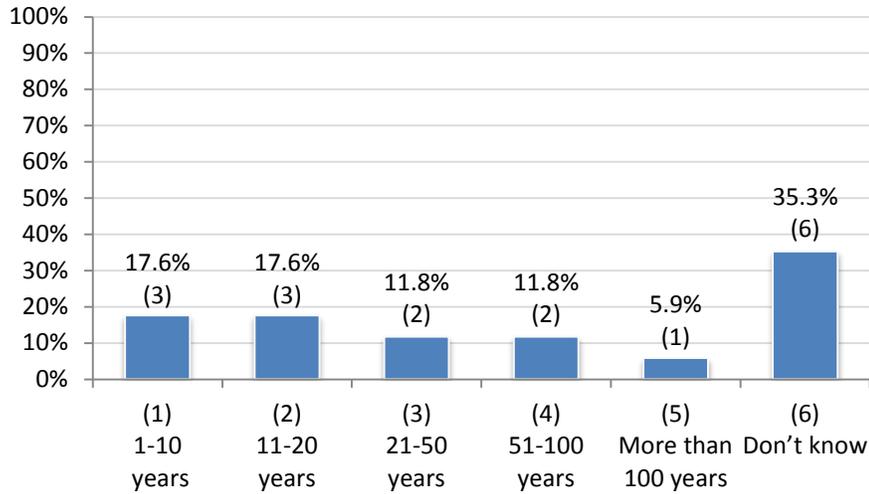
Two trends were identified as top trends in Ecological Health and Condition during the small group discussion.

1. Long-term landscape scale homogenization; and
2. Ecological classification systems used by managers differ.

The following figures illustrate the large group voting results for the two questions asked for each trend.

Trend #1: Long-term landscape scale homogenization.

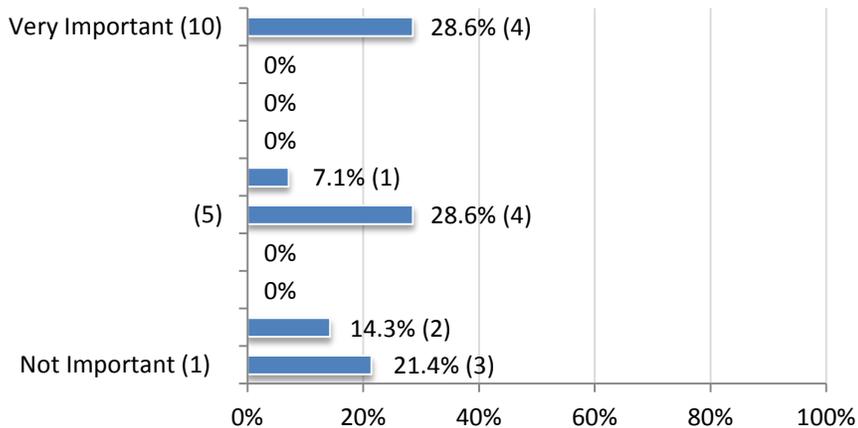
Figure 17. For this trend, *long-term landscape scale homogenization*, what is the crucial time frame?



n = 17 Mean: 2.55 SD*: 1.37 Mode: 6

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

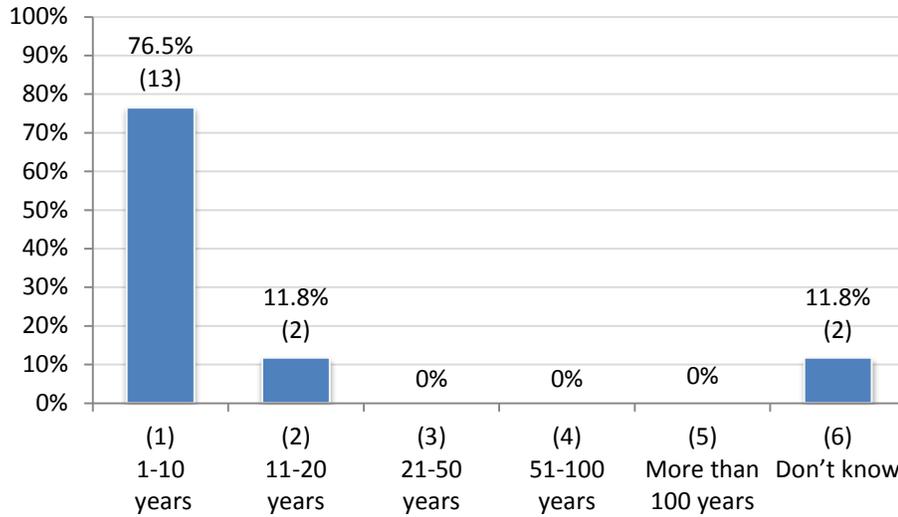
Figure 18. How important is it to address *long-term landscape scale homogenization* and its implications in the Northeast Landscape Plan Update?



n = 14 Mean: 5.21 SD: 3.58 Mode: 5,10

Trend #2: Ecological classification systems used by managers differ.

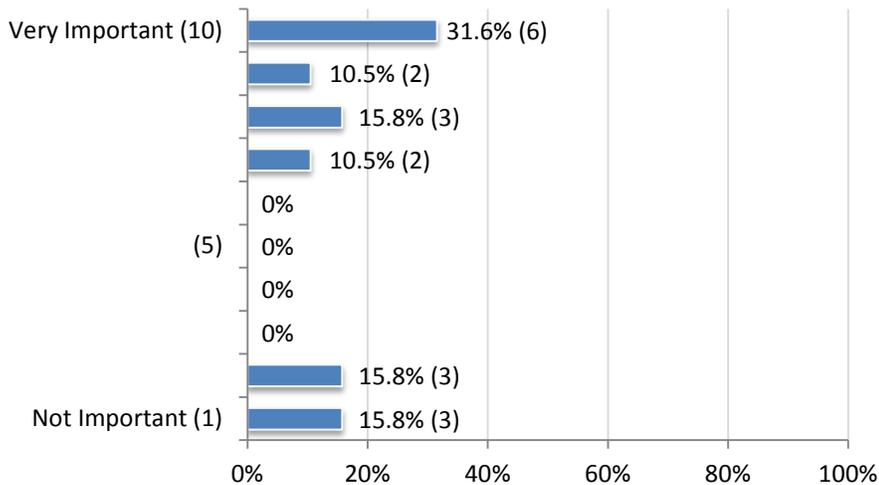
Figure 19. For this trend, *ecological classification systems used by managers differ*, what is the crucial time frame?



n = 17 Mean: 1.13 SD*: 0.35 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Figure 20. How important is it to address *ecological classification systems used by managers differ* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 6.58 SD: 3.69 Mode: 10

Topic 6. Economic

Discussion Summary

Three people engaged in the Economic discussion.

Table 6. Notes from Economic Discussion

Trends	Implications
<ol style="list-style-type: none"> 1. Elevation of mining as new resource economy (4 votes) 2. Changing markets resulting in changing management (3 votes) 3. Increasing global marketplace (1 vote) 4. More demand for forest certification to meet “sustainable” market demand (1 vote) 5. Changes in disposable income (change?) 6. Large decrease in revenue from hunting and fishing 7. Increased need to capture revenues from non-consumptive activities 	<ul style="list-style-type: none"> • Increased competition for resources local/regional resources are now global (3) • More sustainable management and extraction (4) • Need for more flexibility in management (4) • Specialization leads to less flexibility (4) • More opportunity for alternatives in our land use (4) • Subsurface value trumps surface management (1) • Economy supersedes environmental quality (1) • Changes recreational expectation (5) • Change in land ownership, increased parcelization (5) • Employment opportunities “echo effect” “gold rush” (1) • Reduces agency revenue (6) • Potential to offset loss in agency revenue in previous bullet (7)

Voting Summary

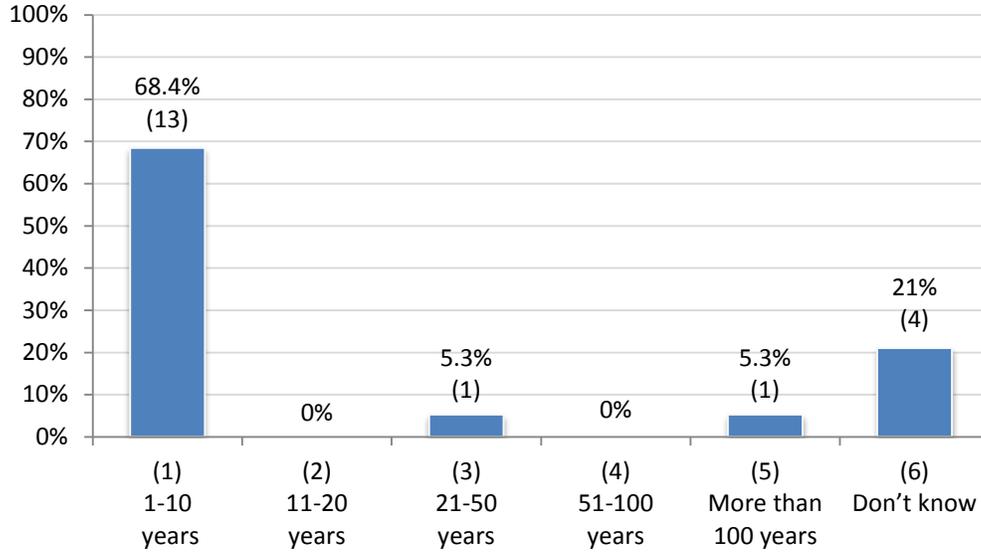
Two trends were identified as top trends in the Economic small group discussion.

1. Elevation of mining as a new resource economy; and
2. Changing markets resulting in changing management.

The following figures illustrate the large group voting results for the two questions asked for each trend.

Trend #1: Elevation of mining as a new resource economy.

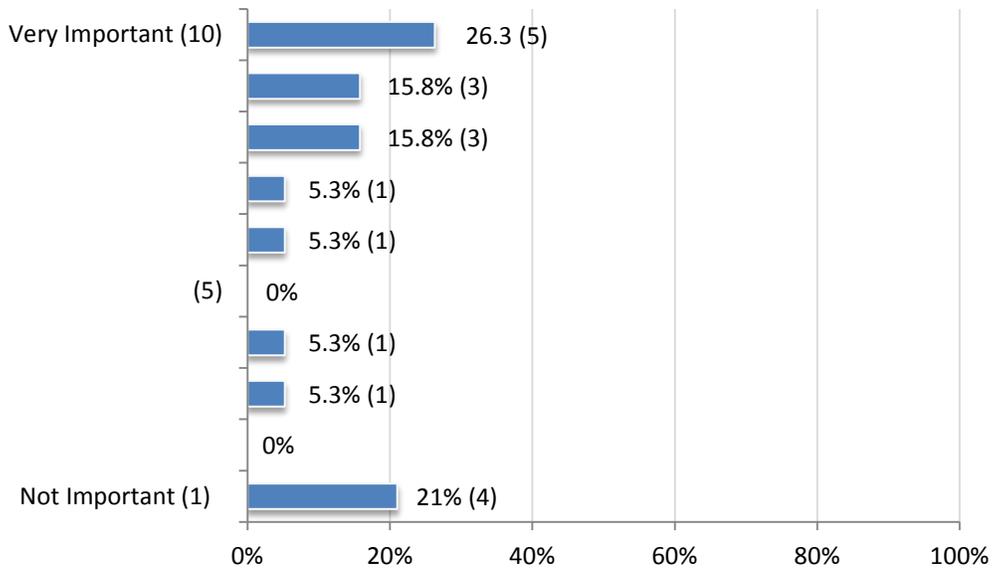
Figure 21. For this trend, *elevation of mining as a new resource economy*, what is the crucial time frame?



n = 19 Mean: 1.40 SD*: 1.12 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

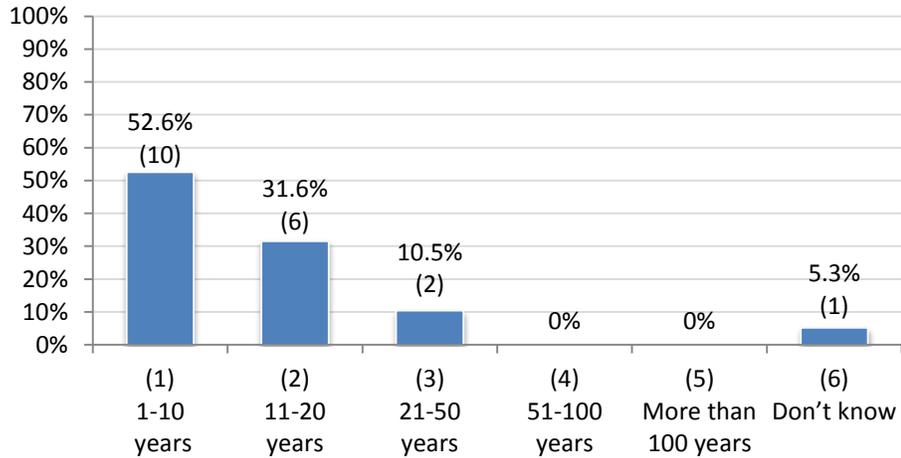
Figure 22. How important is it to address *elevation of mining as a new resource economy* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 6.58 SD: 3.55 Mode: 10

Trend #2: Changing markets resulting in changing management.

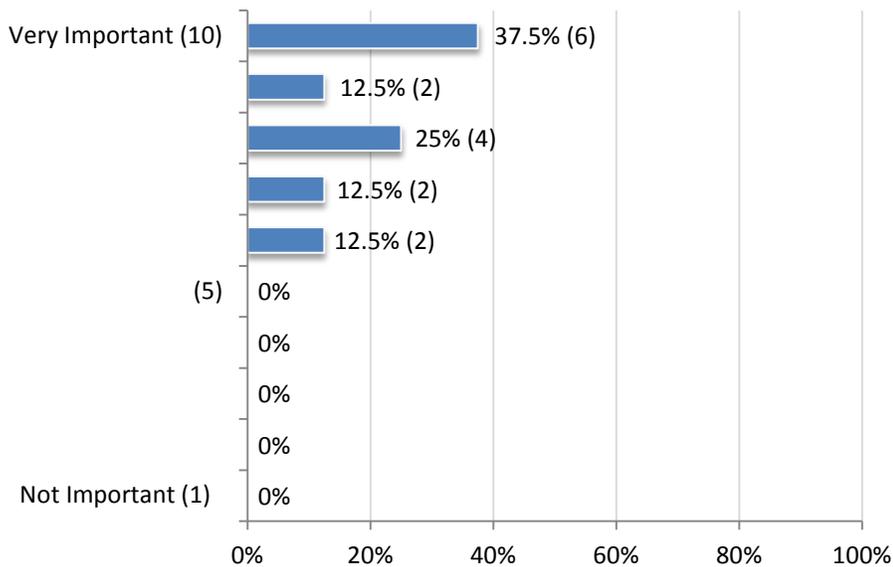
Figure 23. For this trend, *changing markets resulting in changing management*, what is the crucial time frame?



n = 19 Mean: 1.56 SD*: 0.70 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Figure 24. How important is it to address *changing markets resulting in changing management* and its implications in the Northeast Landscape Plan Update?



n = 16 Mean: 8.5 SD: 1.46 Mode: 10

Topic 7. Forest Products

Discussion Summary

The Forest Products discussion started with eight people, and ended with four people.

Table 7. Notes from Forest Products Discussion

Trends	Implications
<ol style="list-style-type: none"> 1. Declining forest products industry (5 votes) 2. Changing product (balance) (specialty / pulp/paper, differentiation + upgrading) (3 votes) 3. Increased awareness of the need for management (3 votes) 4. Decrease in logging infrastructure (2 votes) 5. Increase in technology (2 votes) 6. Livelihood reliance on forest 7. Increase in conifer component 	<ul style="list-style-type: none"> • Change in qty harvest (2) • Change in type of harvest (2) • Quality fiber required (2,3) • Decrease in paper (US), MN mills competitive (1,5,6) • Markets landowner (1,6) • Ecological health (1,3,4) • Livelihood reliance on forest (1,2,4,5) • Decrease in aspen/birch availability (7) • Re-tooling / change in technology required (4,7) • New resource opportunity (conifer) (7) • Utilization from site/rot. age (1,3,7)

Voting Summary

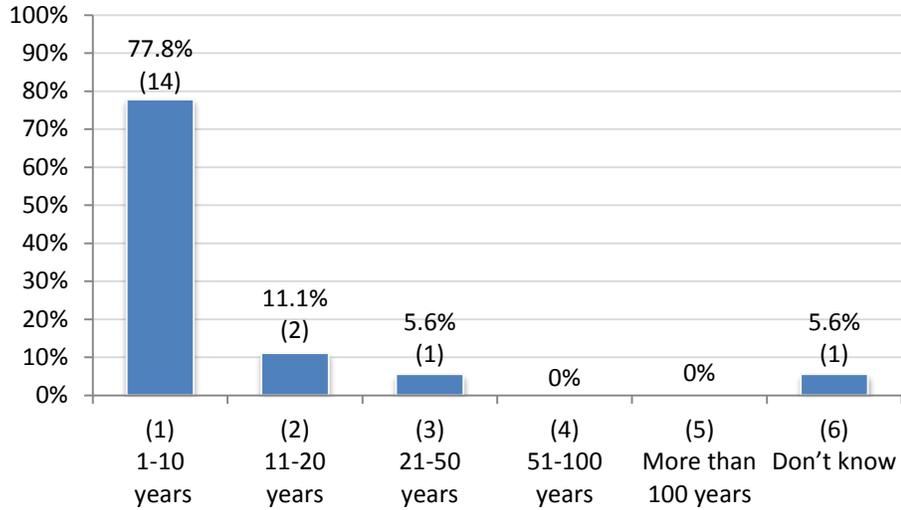
Three trends were identified as top trends in the Economic small group discussion.

1. Declining forest products industry;
- 2t. Increasing awareness of the need for management; and
- 2t. Changing forest products.

The following figures illustrate the large group voting results for the two questions asked for each trend.

Trend #1: Declining forest products industry.

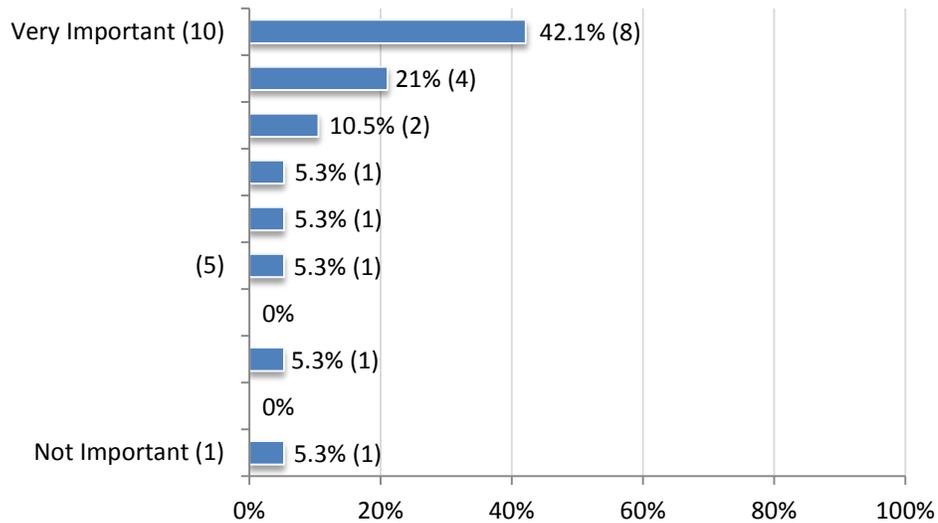
Figure 25. For this trend, *declining forest products industry*, what is the crucial time frame?



n = 18 Mean: 1.24 SD*: 0.56 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

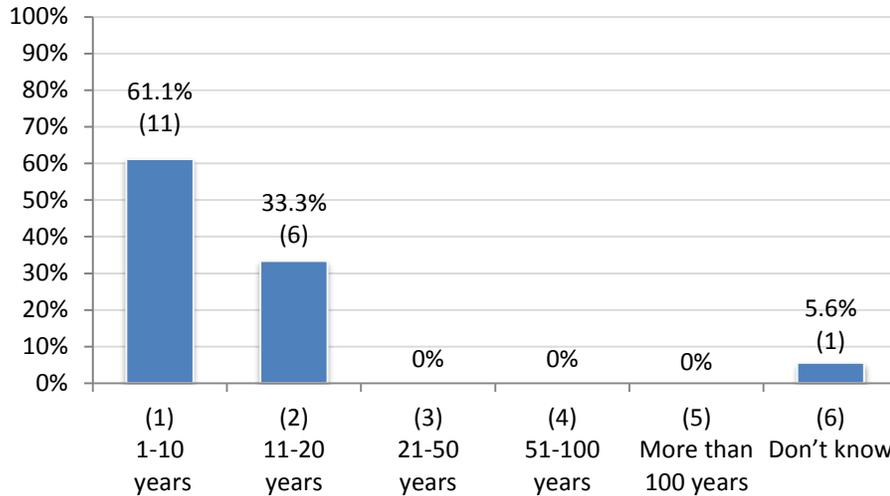
Figure 26. How important is it to address *declining forest products industry* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 8.12 SD: 2.62 Mode: 10

Trend #2t: Increasing awareness of the need for management.

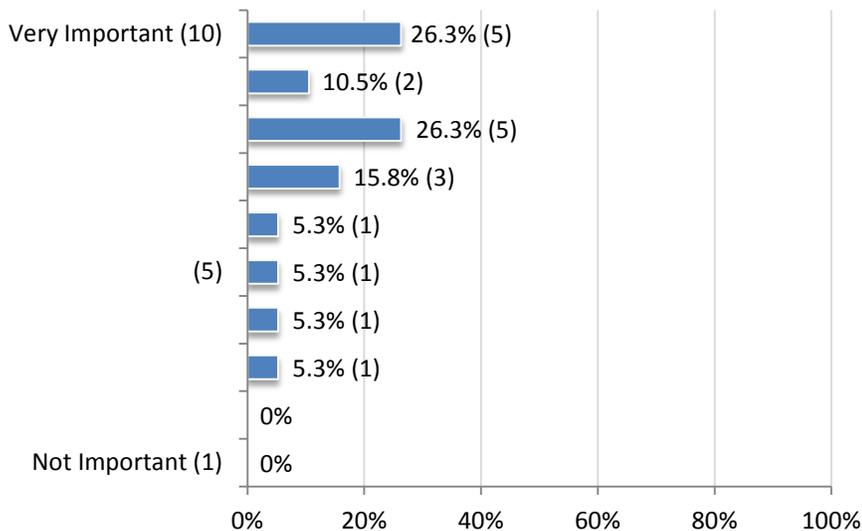
Figure 27. For this trend, *increasing awareness of the need for management*, what is the crucial time frame?



n = 18 Mean: 1.35 SD*: 0.49 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

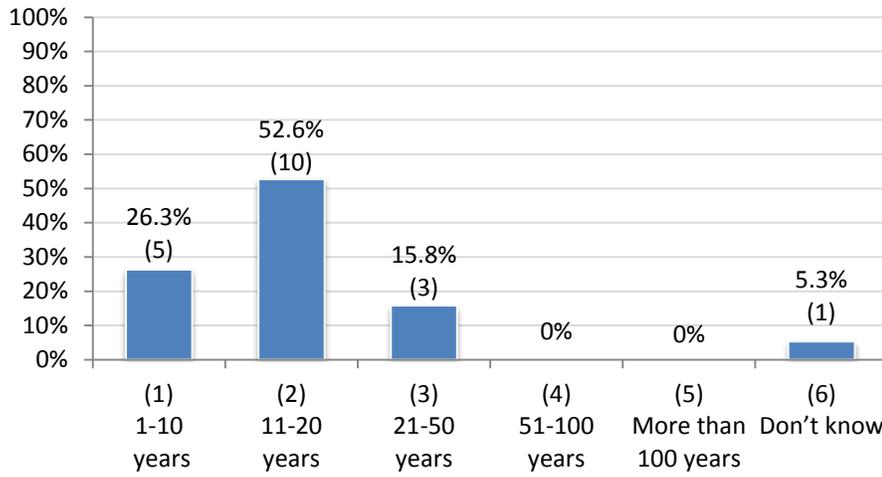
Figure 28. How important is it to address *increasing awareness of the need for management* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 7.74 SD: 2.08 Mode: 8,10

Trend #2t: Changing forest products.

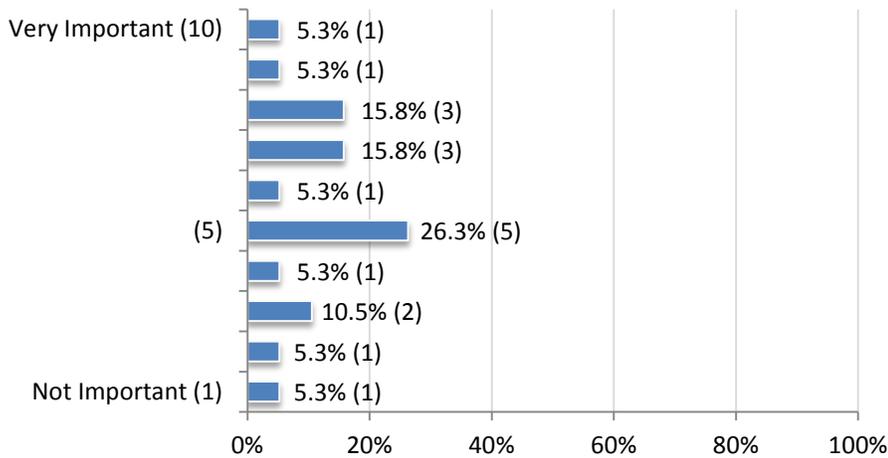
Figure 29. For this trend, *changing forest products*, what is the crucial time frame?



n = 19 Mean: 1.89 SD*: 0.68 Mode: 2

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Figure 30. How important is it to address *changing forest products* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 5.68 SD: 2.43 Mode: 5

Topic 8. Invasive Species

Discussion Summary

Four people engaged in the discussion on Invasive Species.

Table 8. Notes from Invasive Species Discussion

Trends	Implications
<ol style="list-style-type: none"> 1. Positive feedbacks between invasives and human disturbances (w/#2 – 4 votes) 2. Positive feedbacks between invasives will exacerbate and accelerate problems 3. Increases in insect outbreaks and new insects (including due to climate change) (3 votes) 4. Increased costs for management (2 votes) 5. Increased effort to educate public and managers (1 vote) 6. Invasive plant species increasing (new species, number of species) 7. Northern hardwoods affected more than other areas due to earthworms 8. More knowledge on where they occur 9. Learning to live with / manage invasives 	<ul style="list-style-type: none"> • Altered forest composition (6,7) • Create more management problems (6) • Ability to regenerate tree species (6,7) • Invasives moving to locations that didn't have them (1,2) • Increased defoliation (3) • Decreased habitat (3) • Decreased forest products (3) • Overall stress on current forest ecosystem (3) • Decrease in native ecosystem, increase in novel ecosystem (3) • Reduced ecosystem services (1,2,3,6,7) • Potential improved ability to control or avoid rapid response (8) • Need for additional resources for management (shift \$ from other conservation topics) (4) • Potential for private person to manage themselves (9) • Learning to use invasives for useful purposes (5)

Voting Summary

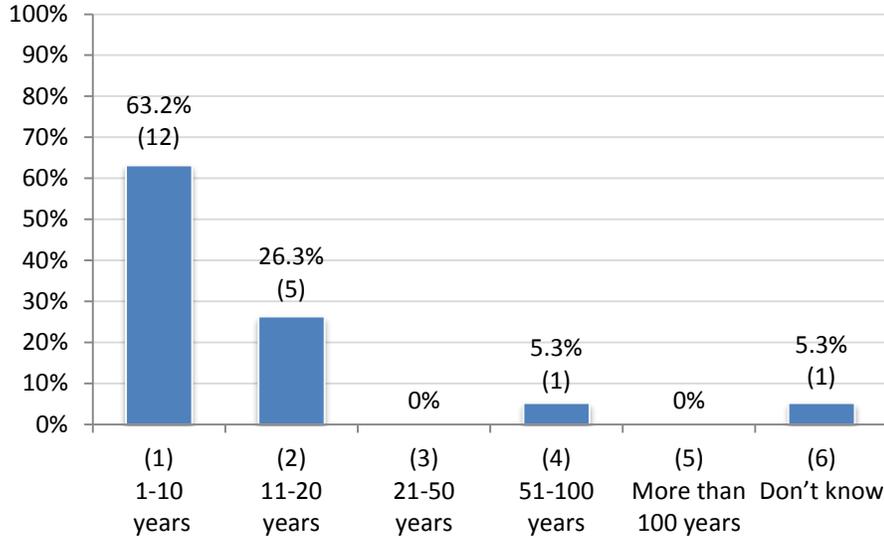
Two trends were identified as top trends in the Invasive Species small group discussion.

1. Positive feedbacks between invasives, plus interactions with human disturbances will exacerbate/accelerate problems; and
2. Increases in insect outbreaks and new insects due to climate change and other factors.

The following figures illustrate the large group voting results for the two questions asked for each trend.

Trend #1: Positive feedbacks between invasives, plus interactions with human disturbances will exacerbate/accelerate problems.

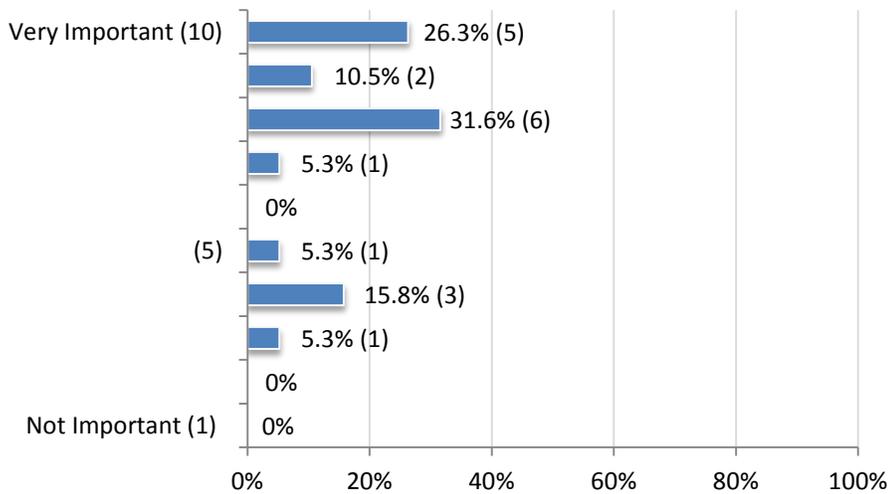
Figure 31. For this trend, *positive feedbacks between invasives, plus interactions with human disturbances will exacerbate/accelerate problems*, what is the crucial time frame?



n = 19 Mean: 1.44 SD*: 0.78 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

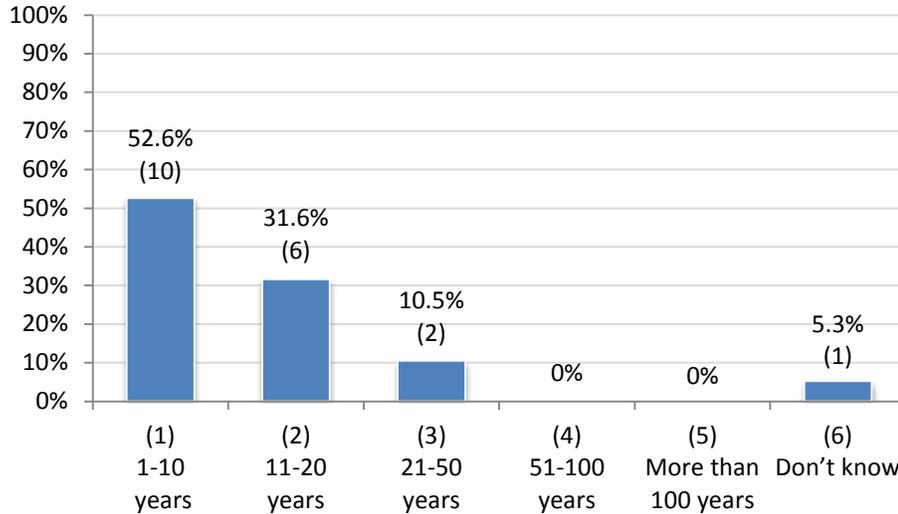
Figure 32. How important is it to address *positive feedbacks between invasives, plus interactions with human disturbances* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 7.53 SD: 2.37 Mode: 8

Trend #2: Increases in insect outbreaks and new insects due to climate change and other factors.

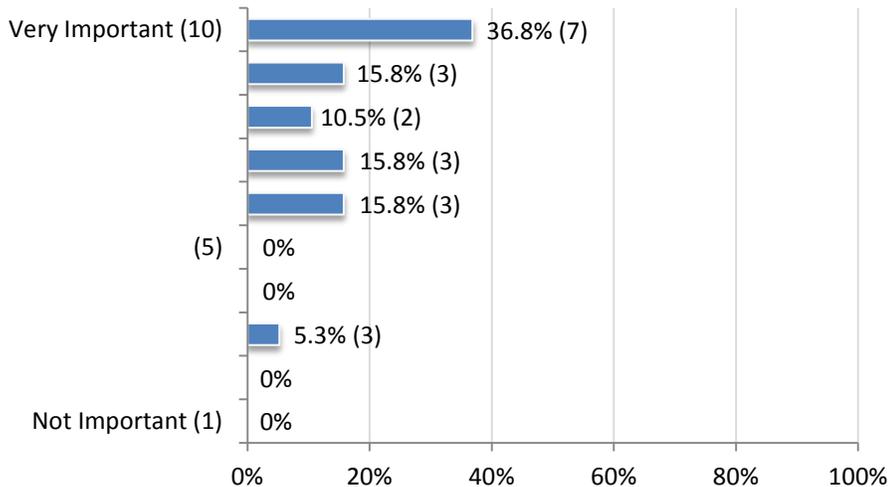
Figure 33. For this trend, *increases in insect outbreaks and new insects due to climate change and other factors*, what is the crucial time frame?



n = 19 Mean: 1.56 SD*: 0.70 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Figure 34. How important is it to address *increases in insect outbreaks and new insects due to climate change and other factors* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 8.16 SD: 1.98 Mode: 10

Topic 9. Tourism and Recreation

Discussion Summary

The Tourism and Recreation discussion started with seven people, and ended with eight people.

Table 9. Notes from Tourism and Recreation Discussion

Trends	Implications
1. Increased diversity of expectations for recreational opportunities (7 votes)	<ul style="list-style-type: none">• Lack of understanding about healthy forests (3)
2. Increased detachment from natural environment (7 votes)	<ul style="list-style-type: none">• Detachment from natural environment (3,4)
3. Increased tourism, not natural resources related (4 votes)	<ul style="list-style-type: none">• Increased want for infrastructure (1,6)
4. Decrease in duration of stay (4 votes)	<ul style="list-style-type: none">• Revenue loss to natural resource agencies (3)
5. Increased want/desire for infrastructure (2 votes)	<ul style="list-style-type: none">• Need for planning/coordination among agencies to provide rec. opportunities (1)
6. Increased summer traffic	

Voting Summary

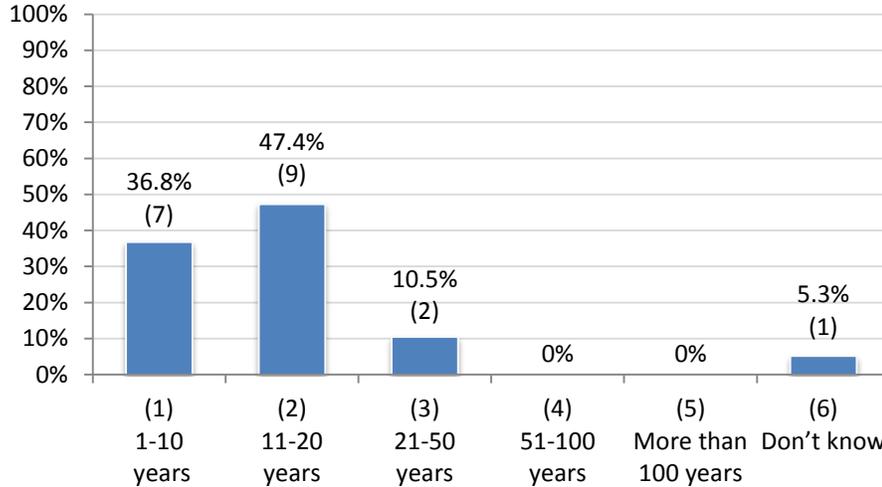
Two trends were identified as top trends in the Tourism and Recreation small group discussion.

1. Increasing diversity of expectations for recreational opportunities; and
- 1t. Increasing detachment from the natural environment.

The following figures illustrate the large group voting results for the two questions asked for each trend.

Trend #1: Increasing diversity of expectations for recreational opportunities.

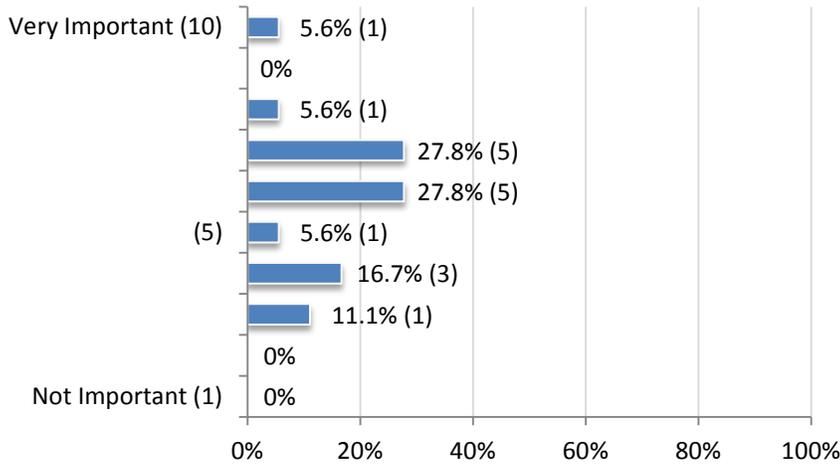
Figure 35. For this trend, *increasing diversity of expectations for recreational opportunities*, what is the crucial time frame?



n = 19 Mean: 1.72 SD*: 0.67 Mode: 2

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

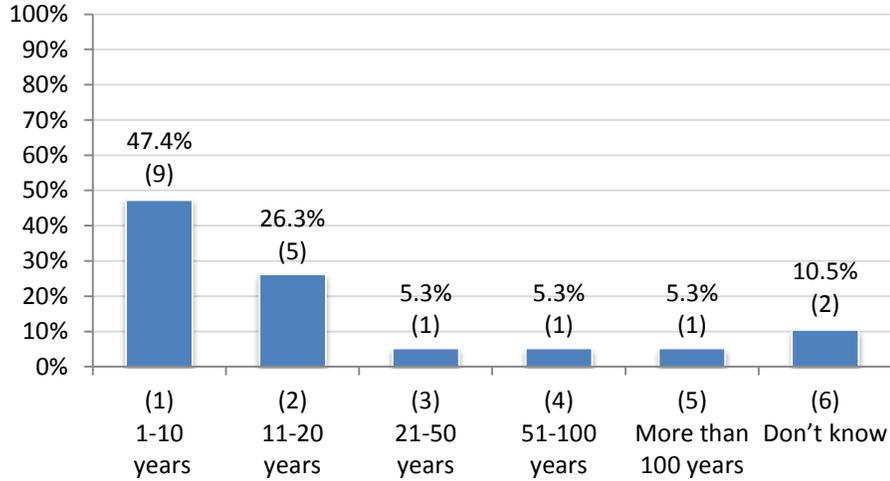
Figure 36. How important is it to address *increasing diversity of expectations for recreational opportunities* and its implications in the Northeast Landscape Plan Update?



n = 18 Mean: 5.89 SD: 1.81 Mode: 6,7

Trend #2: Increasing detachment from the natural environment.

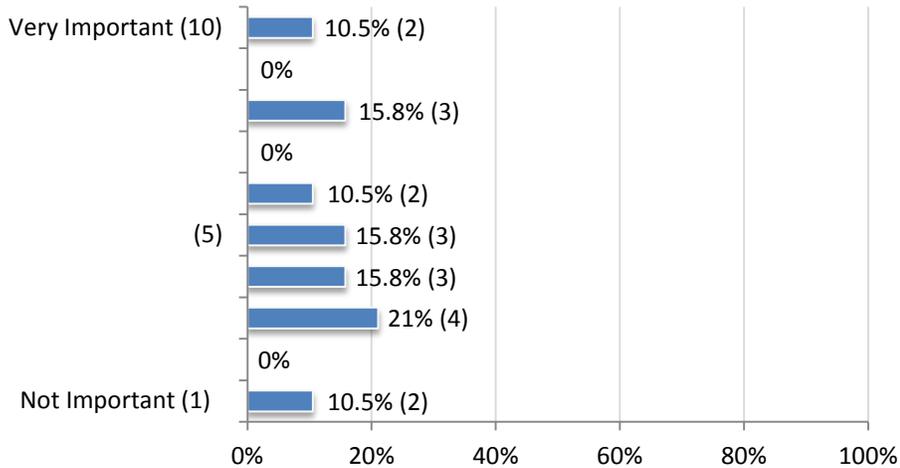
Figure 37. For this trend, *increasing detachment from the natural environment*, what is the crucial time frame?



n = 19 Mean: 1.82 SD*: 1.19 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Figure 38. How important is it to address *increasing detachment from the natural environment* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 5.12 SD: 2.69 Mode: 3

Topic 10. Tribal Trends

Discussion Summary

The Tribal Trends discussion started with two people, and ended with four people.

Table 10. Notes from Tribal Trends Discussion

Trends	Implications
<ol style="list-style-type: none"> 1. Increased political assertion (5 votes) 2. Increased tribal capacity to exercise vested rights on the landscape (4 votes) 3. Recognizing increased regulatory capacity as it relates to mining regulation (2 votes) 4. Have increased government to government relationship with tribes as a third sovereign (1 vote) 5. Increased cultural awareness and acceptance 6. Increased polarization 	<ul style="list-style-type: none"> • Increased capacity and coordination needed between tribes and agencies (1,2) • Increased consultation (trust responsibility = USFS) (1,4) • Another component to the mining issue (1,3) • Adds complexity to the above (5,6)

Voting Summary

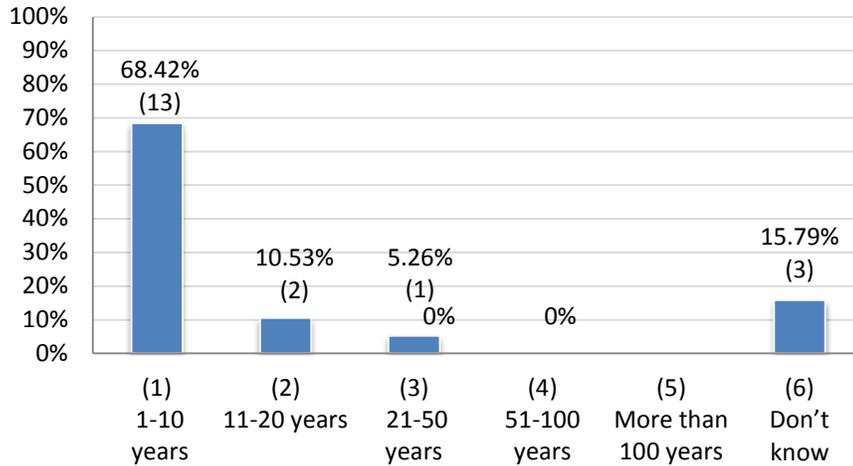
Two trends were identified as top trends in the Tribal Trends small group discussion.

1. Increased tribal capacity to exercise vested rights on the landscape; and
2. Increased political assertion by tribes.

The following figures illustrate the large group voting results for the two questions asked for each trend.

Trend #1: Increased tribal capacity to exercise vested rights on the landscape.

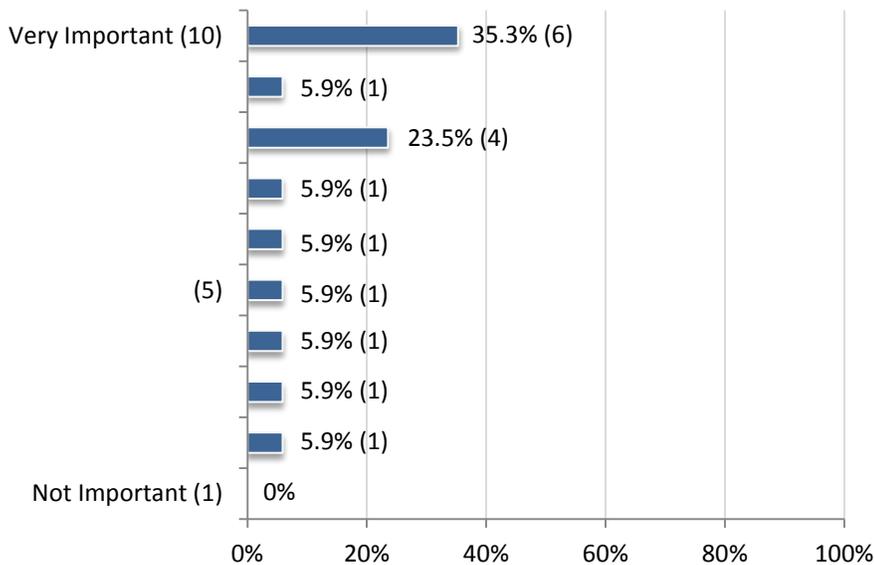
Figure 39. For this trend, *increased tribal capacity to exercise vested rights on the landscape*, what is the crucial time frame?



n = 19 Mean: 1.25 SD*: 0.58 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

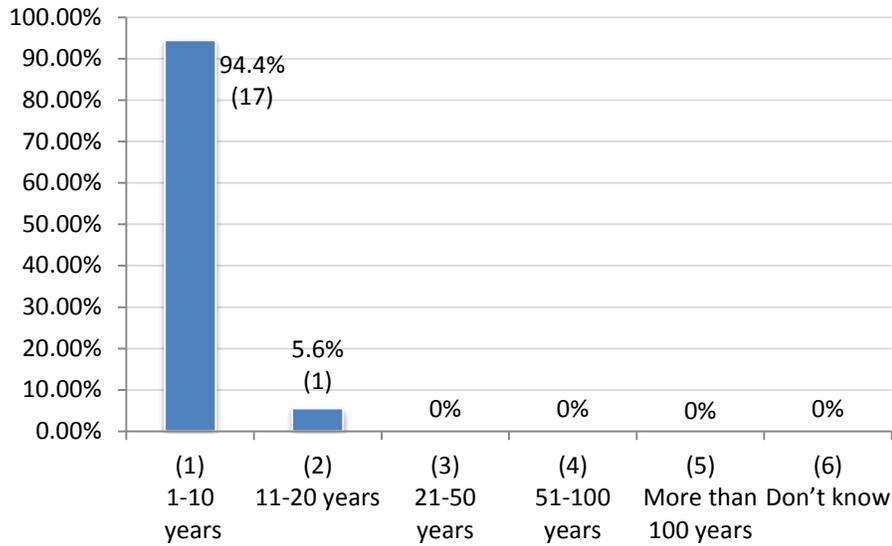
Figure 40. How important is it to address *increased tribal capacity to exercise vested rights on the landscape* and its implications in the Northeast Landscape Plan Update?



n = 17 Mean: 7.53 SD: 2.65 Mode: 10

Trend #2: Increased political assertion by tribes.

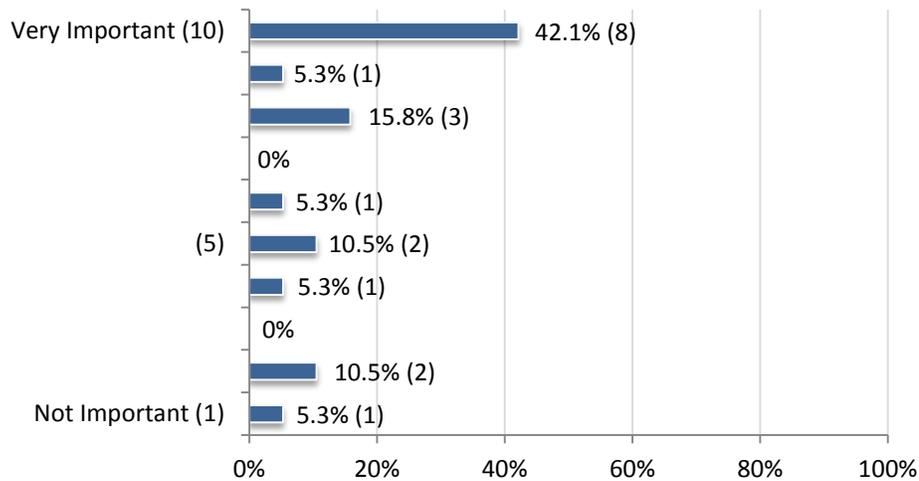
Figure 41. For this trend, *increased political assertion by tribes*, what is the crucial time frame?



n = 17 Mean: 1.05 SD*: 0.24 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Figure 42. How important is it to address *increased political assertion by tribes* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 7.26 SD: 3.18 Mode: 10

Topic 11. Water and Fisheries

Discussion Summary

Five people engaged in the discussion on Water and Fisheries.

Table 11. Notes from Water and Fisheries Discussion

Trends	Implications
1. Increased use of forest management guidelines (3 votes)	<ul style="list-style-type: none"> • Slow spread through management (9) • Reduced access (9)
2. Decrease in cold water fish populations (trout) (2 votes)	<ul style="list-style-type: none"> • Fewer anglers (one of the draws to the region) (2)
3. Increase in water temperature (2 votes)	<ul style="list-style-type: none"> • Increased funds to protect and restore (projects) (11)
4. Increase in storm intensity (2 votes)	<ul style="list-style-type: none"> • Less stable streams (4)
5. Decreased anglers (2 votes)	<ul style="list-style-type: none"> • More runoff (4)
6. Decrease in groundwater aquifer (1 vote)	<ul style="list-style-type: none"> • Maintaining water quality, riparian zones (1,7,8)
7. Improved septic systems enforcement, shoreline regulations (1 vote)	<ul style="list-style-type: none"> • Water quality (7)
8. Decreased impacts from agriculture (nonpoint impacts) (1 vote)	<ul style="list-style-type: none"> • Smarter development (7)
9. Increased awareness of invasive species (1 vote)	<ul style="list-style-type: none"> • Decrease in public \$ for resource management, increase in license fees (5)
10. Increase in water demand (out-state in future)	<ul style="list-style-type: none"> • Decreased connection to natural resources (5)
11. ? water quality	<ul style="list-style-type: none"> • Decrease in groundwater aquifer (3,4)
12. Increased easy access fishing (docks, ramps)	<ul style="list-style-type: none"> • Decrease in cold water fish (3)

Voting Summary

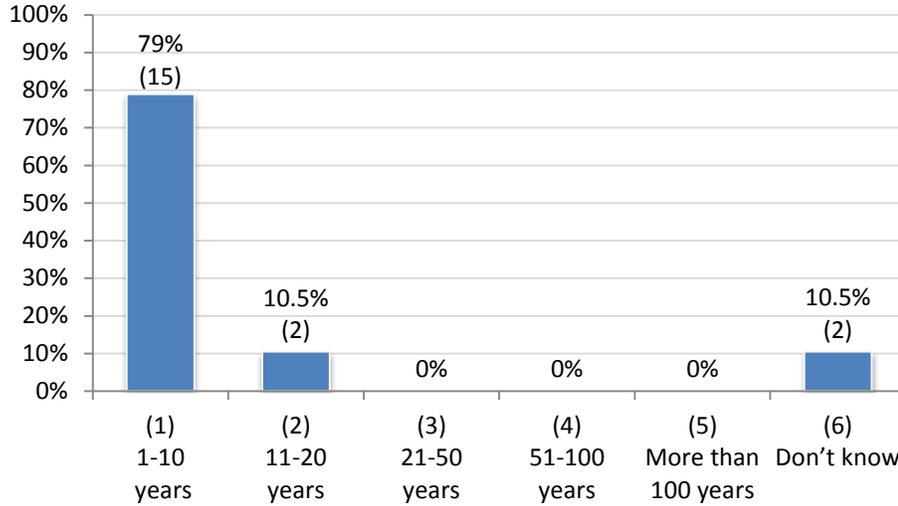
Five trends were identified as top trends in the Water and Fisheries small group discussion.

1. Increased use of forest management guidelines;
- 2t. Declining cold water fish populations;
- 2t. Increasing water temperature;
- 2t. Increasing storm intensity; and
- 2t. Decreasing anglers.

The following figures illustrate the large group voting results for the two questions asked for each trend.

Trend #1: Increased use of forest management guidelines.

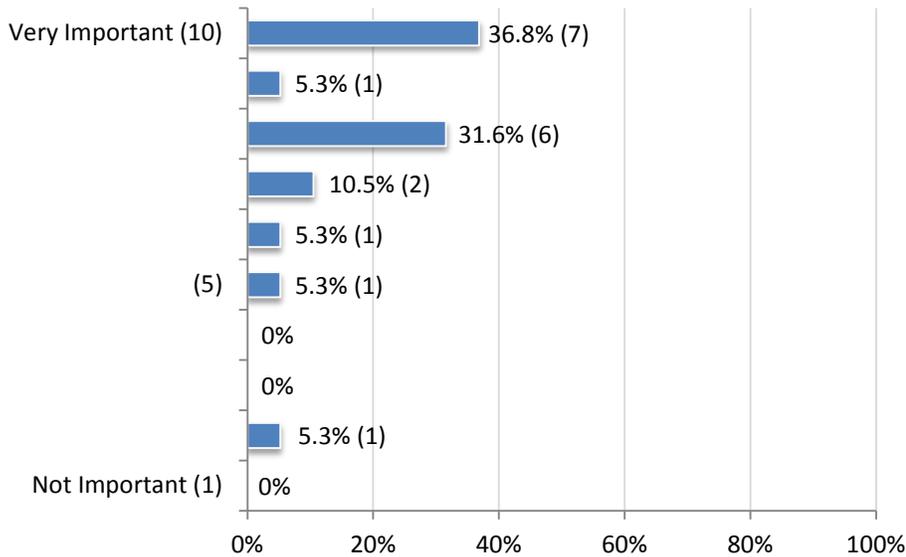
Figure 43. For this trend, *increased use of forest management guidelines*, what is the crucial time frame?



n = 19 Mean: 1.11 SD*: 0.33 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

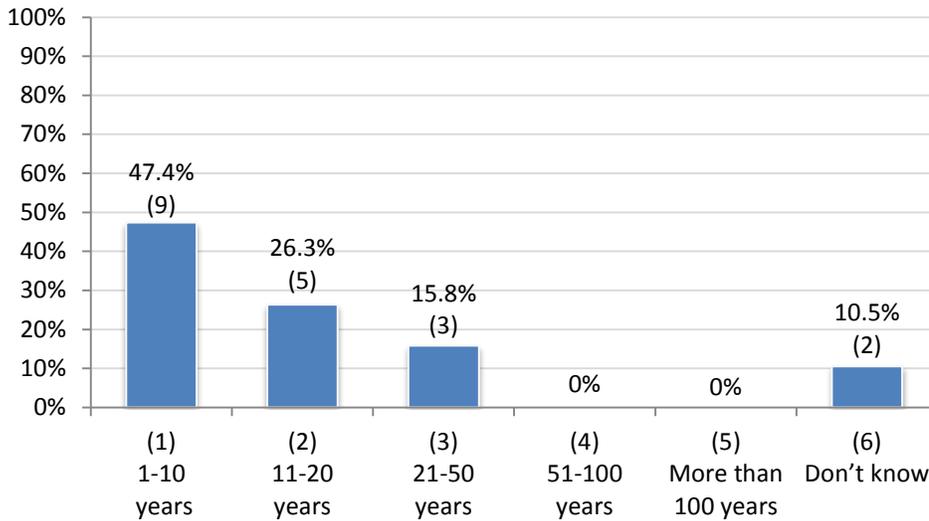
Figure 44. How important is it to address *increased use of forest management guidelines* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 8.11 SD: 2.11 Mode: 10

Trend #2t: Declining cold water fish populations.

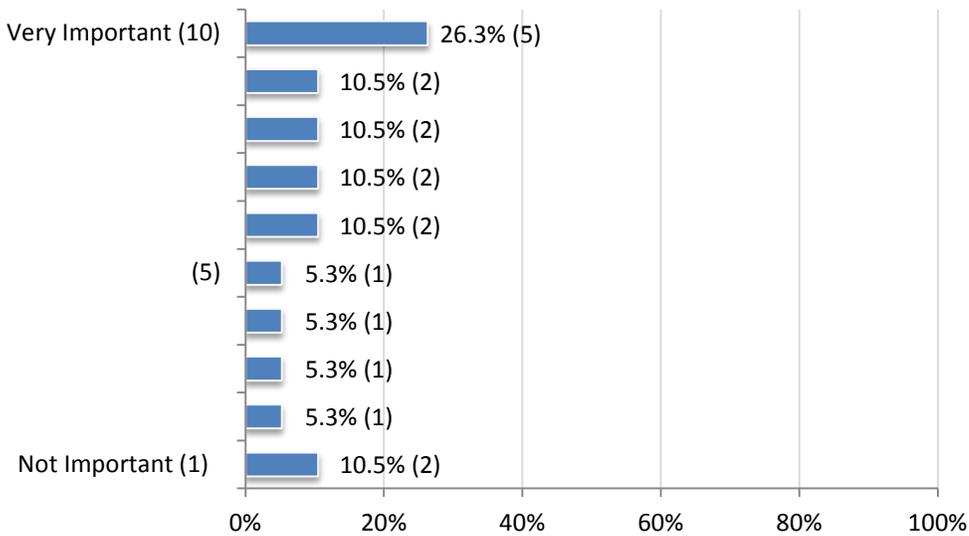
Figure 45. For this trend, *declining cold water fish populations*, what is the crucial time frame?



n = 19 Mean: 1.65 SD*: 0.79 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

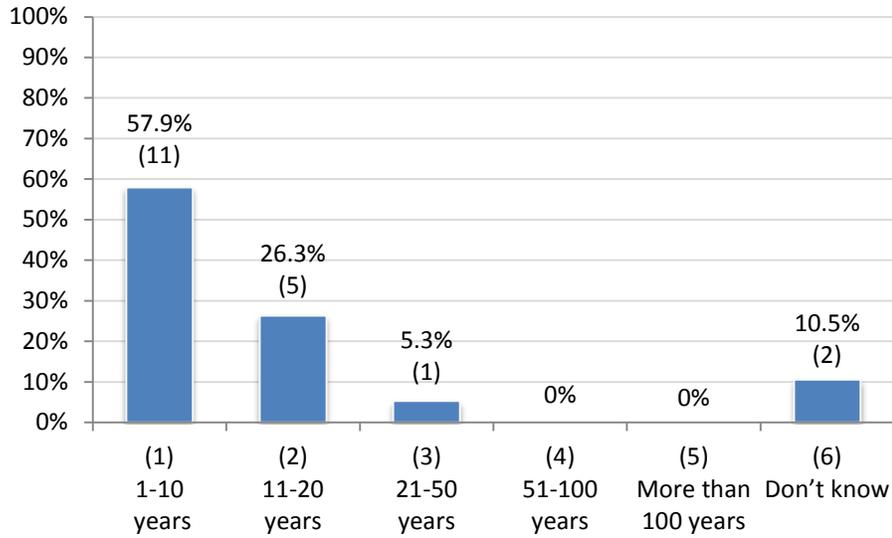
Figure 46. How important is it to address *declining cold water fish populations* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 6.63 SD: 3.17 Mode: 10

Trend #2t: Increasing water temperature.

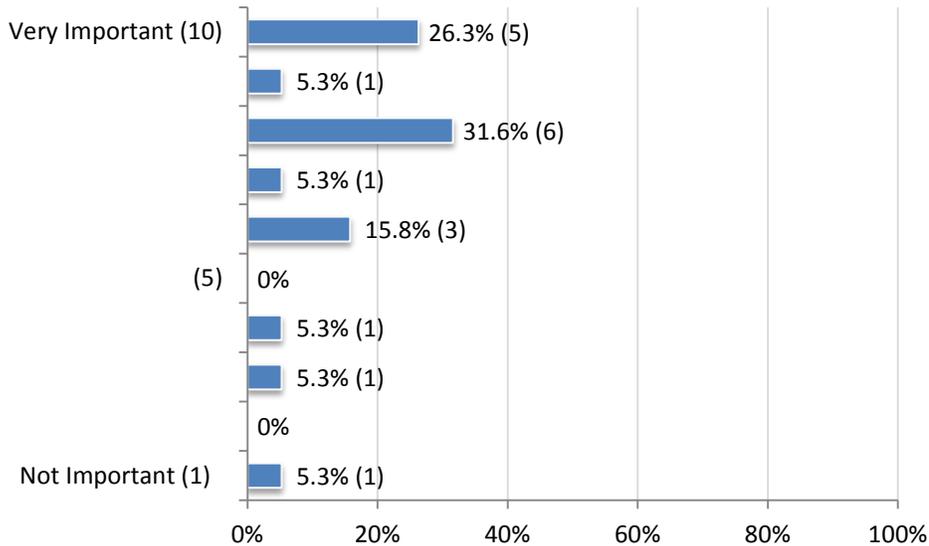
Figure 47. For this trend, *increasing water temperature*, what is the crucial time frame?



n = 19 Mean: 1.41 SD*: 0.62 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

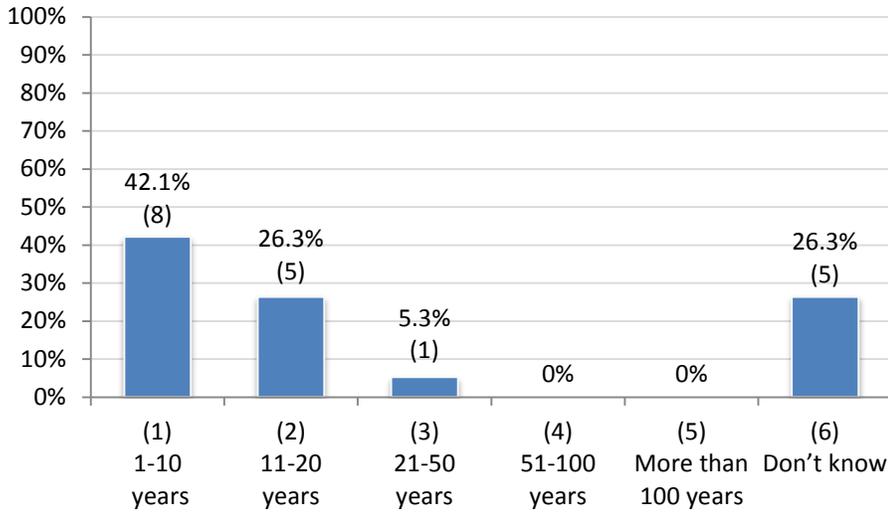
Figure 48. How important is it to address *increasing water temperature* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 7.37 SD: 2.54 Mode: 8

Trend #2t: Increasing storm intensity.

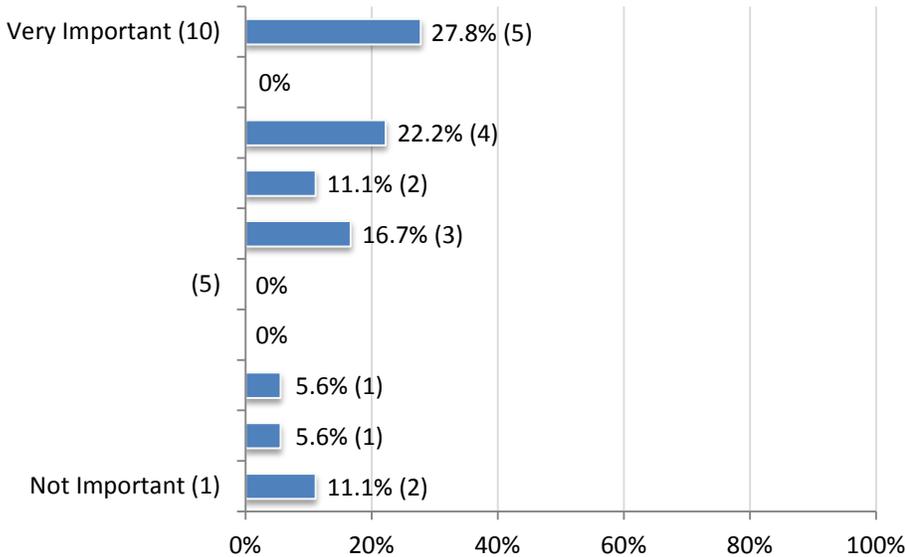
Figure 49. For this trend, *increasing storm intensity*, what is the crucial time frame?



n = 19 Mean: 2.50 SD*: 0.65 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

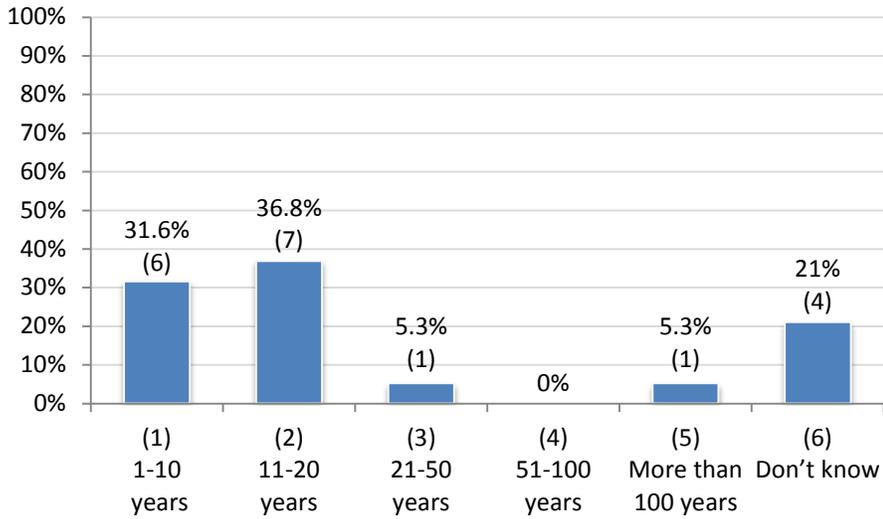
Figure 50. How important is it to address *increasing storm intensity* and its implications in the Northeast Landscape Plan Update?



n = 18 Mean: 6.72 SD: 3.10 Mode: 10

Trend #2t: Decreasing anglers.

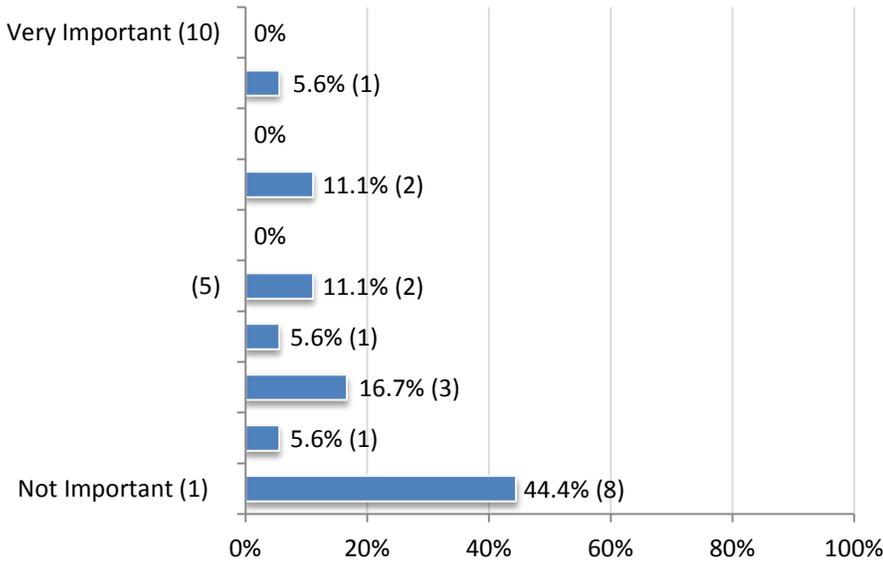
Figure 51. For this trend, *decreasing anglers*, what is the crucial time frame?



n = 19 Mean: 1.87 SD*: 1.06 Mode: 2

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Figure 52. How important is it to address *decreasing anglers* and its implications in the Northeast Landscape Plan Update?



n = 18 Mean: 3.11 SD: 2.54 Mode: 1

Topic 12. Wildlife

Discussion Summary

Four people engaged in the conversation on Wildlife.

Table 12. Notes from Wildlife Discussion

Trends	Implications
<ol style="list-style-type: none"> 1. Need for more collaboration (DofF, wildlife – forestry) (6 votes) 2. Moose population declining (public perceptions) (2 votes) 3. Shifts in mega-fauna (charismatic species, protected) (2 votes) 4. Changes in forest management and fire affecting wildlife habitat and populations (2 votes) 5. Trend in threatened/endangered species (wolves, bald eagles) 6. More and larger landscape scale disturbance events (wind, fire, impacts on wildlife habitat and population) 	<ul style="list-style-type: none"> • Support for moose vs. deer, divided people, creates conflict (2) • Losing icon species (2) • Less food for timberwolves (2) • Creates public debate +/- (3) • Additional hunting opportunities (wolves (5) • Decline in moose, more deer to hunt (5) • Shift towards early success species (4) • Increase in invasives – potential (4) • Reduces edge environment (4) • Varies by species and time (6) • Increased opportunities for study (6) • Increased opportunities for tourism – affects how people use lands, resources (year 1. seek, year 2. avoid, year 3. berries) (6) • How much/often does DNR /DofF use the swap? (6) • Forest management dictates wildlife habitat, population (6) • Little WMA land in NE MN (6)

Voting Summary

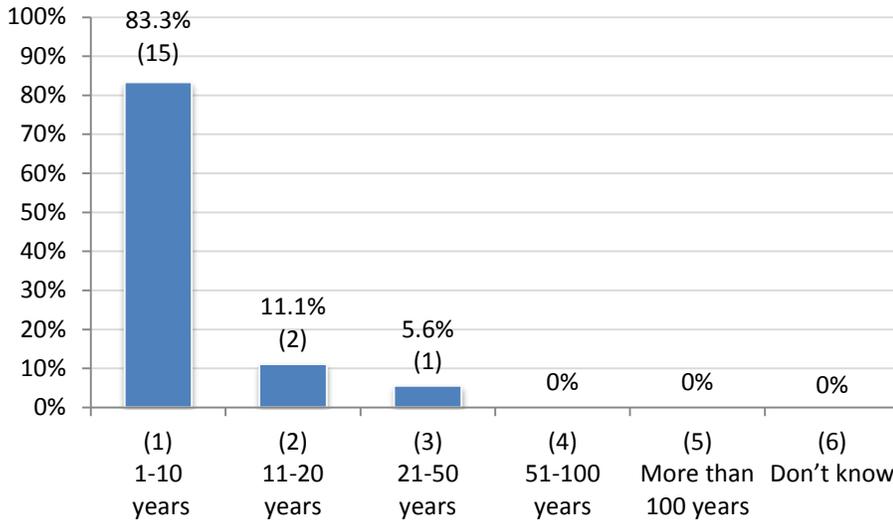
Four trends were identified as top trends in the Wildlife small group discussion.

1. Need for more collaboration;
- 2t. Declining moose populations;
- 2t. Shifts in mega-fauna; and
- 2t. Changes in forest management and fire affecting wildlife habitat and populations.

The following figures illustrate the large group voting results for the two questions asked for each trend.

Trend #1: Need for more collaboration.

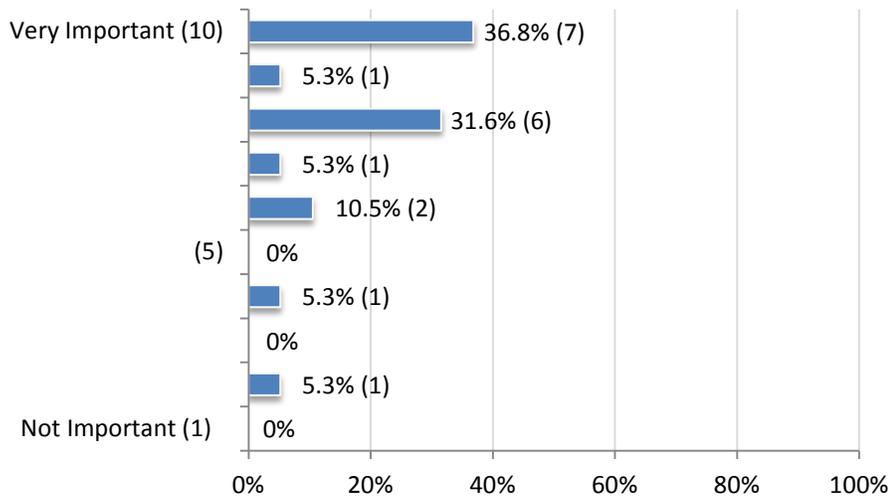
Figure 53. For this trend, *need for more collaboration*, what is the crucial time frame?



n = 18 Mean: 1.28 SD*: 0.55 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

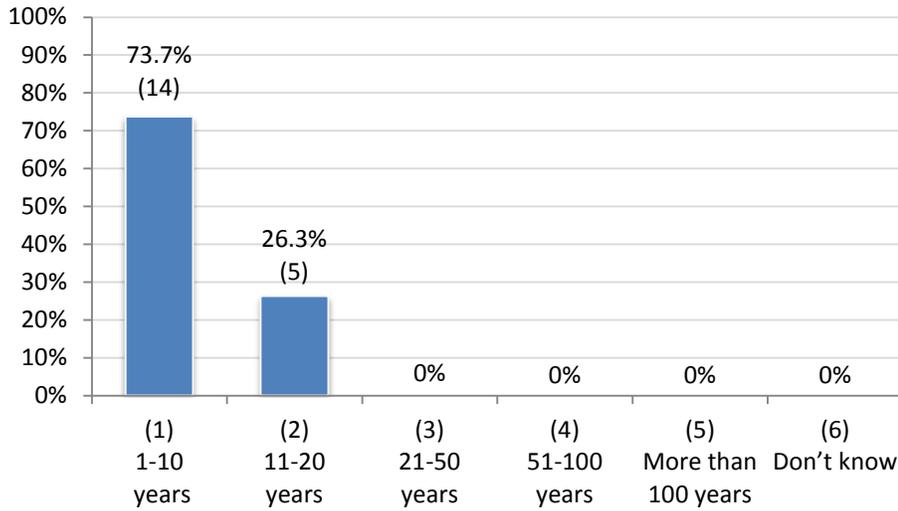
Figure 54. How important is it to address *the need for more collaboration* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 8 SD: 2.24 Mode: 10

Trend #2t: Declining moose populations.

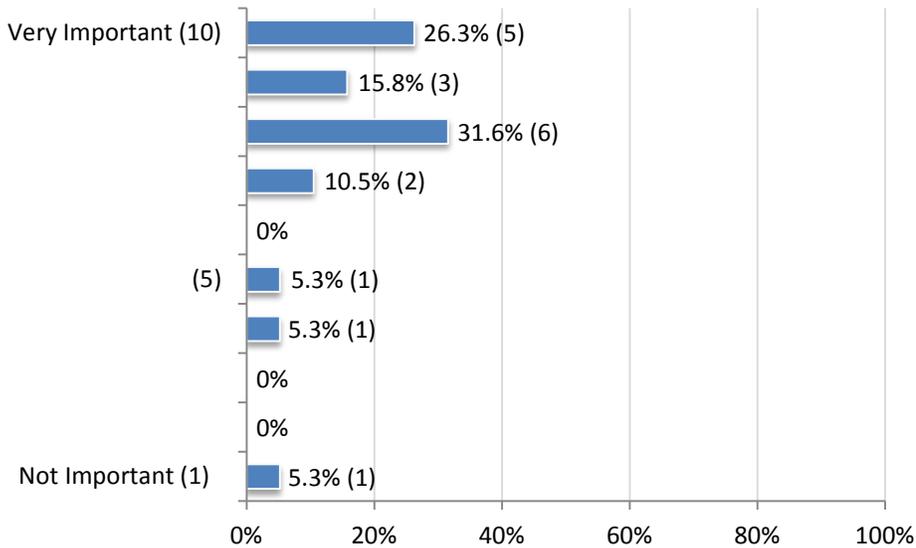
Figure 55. For this trend, *declining moose populations*, what is the crucial time frame?



n = 19 Mean: 1.26 SD*: 0.45 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

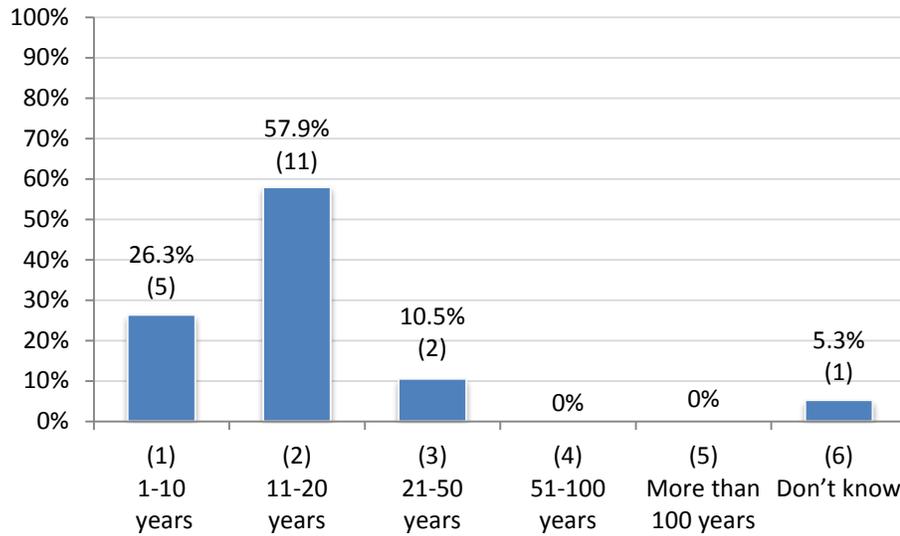
Figure 56. How important is it to address *declining moose populations* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 7.84 SD: 2.34 Mode: 8

Trend #2t: Shifts in mega-fauna.

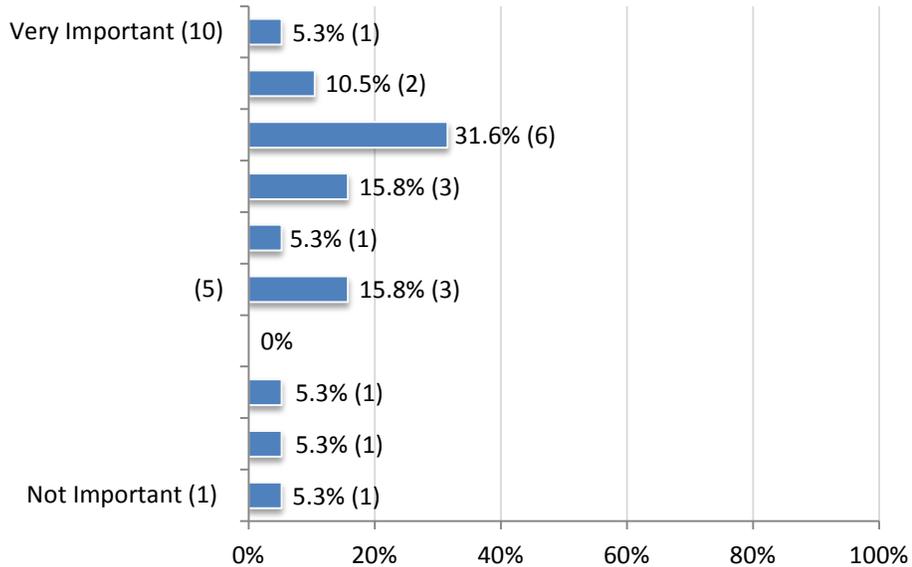
Figure 57. For this trend, *shifts in mega-fauna*, what is the crucial time frame?



n = 18 Mean: 1.83 SD*: 0.62 Mode: 2

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

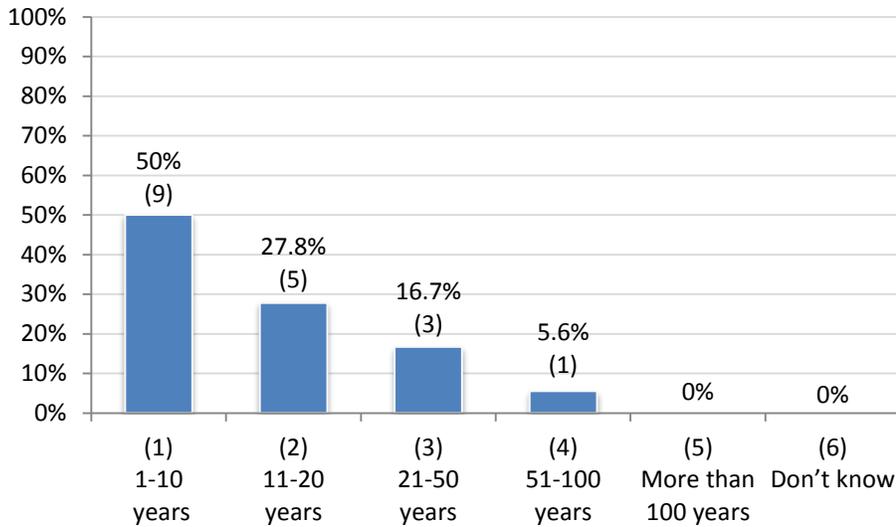
Figure 58. How important is it to address *shifts in mega-fauna* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 6.53 SD: 2.46 Mode: 8

Trend #2t: Changes in forest management and fire affecting wildlife habitat and populations.

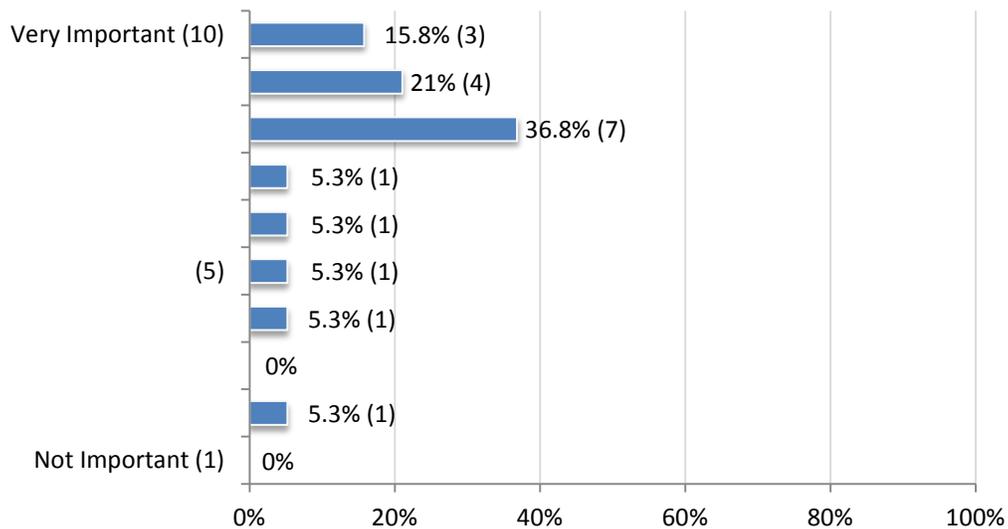
Figure 59. For this trend, *changes in forest management and fire affecting wildlife habitat and populations*, what is the crucial time frame?



n = 18 Mean: 1.78 SD*: 0.94 Mode: 1

* Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Figure 60. How important is it to address *changes in forest management and fire affecting wildlife habitat and populations* and its implications in the Northeast Landscape Plan Update?



n = 19 Mean: 7.68 SD: 2.11 Mode: 8

Section Three: Participant Reflections, Limitations, Summary and Conclusion

Participant Reflections

To conclude the workshop, participants were asked three final questions:

- *Is there anything that surprised you related to the results of the discussion?*
- *Are there important trends that are missing from these topical areas that need to be addressed?*
- *Among the trends identified by the groups, where is there significant uncertainty about the trend or its potential implications and what is the source of that uncertainty?*

During this large group discussion, participants provided a number of comments about the day's activities. Comments ranged from reflections on the structure or content of the workshop to nuanced ideas like perception of a trend may vary based on public or private landownership. A number of participants were surprised that political trends did not surface in small group discussions, and some participants mentioned they were surprised it was not one of the twelve discussion topics. It was also surprising for some that timber was not a larger part of the discussion.

The following list provides all comments captured by the facilitators:

- Will [the authors of the Northeast Landscape Plan Update] look at the change in topics between the past plan and new plan?
- Anticipated that timber would have been more a part of the discussion but it was not
- Difference in perception of trends by public or private landowners
- Is landscape homogenization a trend?
- Many trends we cannot influence
- Political trends might be discussed (e.g., how is funding allocated, shift if political power to urban legislators)
- Missing political trends
- Time frames are difficult to interpret; are we voting on when a trend will occur or when to address?
- It is surprising that more women are not involved in the process. (This comment was made by a few at the conclusion of the workshop, not in the large group discussion.)

Summary and Conclusion

The goals of the workshop were to generate a list of key trends and implications, provide a prioritized list of trends to be addressed in the update process, and allow participants to actively participate in framing potential content for the Northeast Landscape Plan Update. To that end, the workshop format and activities provided a good platform for open participation, and was helpful in generating a long list of topics, trends, and implications for further consideration by MRFC staff and the Planning Committee.

Tables 13 and 14 provide comparisons of voting responses across trends. This information is helpful in understanding participants' perception on the timing to address the identified trends and participants' perspectives on trends that are most important to the Northeast Landscape Plan Update. The mean and mode scores offer an insight into where consensus is emerging among the participants. Where high standard deviation scores exist, there may be a need for further discussion related to the associated trends.

Table 13 summarizes the responses to the question on time frame for each trend, offering insight into participants' perceptions of the time frame within which key issues will become relevant. As noted earlier, the question was framed to roughly match timescales present in previous planning efforts; in the first MFRC Northeast Landscape Plan "strategies" identified are those that address issues in a 1-10 year time frame, "goals" are those that address issues in the 11-20 year time frame, and "desired future conditions" are longer term at 100-200 years. To make this question match that time scale, yet provide participants with a more nuanced time scale of when a trend may be most impactful, 21-50 and 51-100 responses were added to the question.

Table 13 is sorted on mean (the average response). The lower the mean response, excluding the "don't know" responses, the more immediate the perceived time frame. All of the mean values lie within the first two time frames, 1-10 years and 11-20 years. The mode is also relevant, notably for nearly all trends (25 of 30), responses indicate most participants view the 1-10 year time frame as the crucial time frame. The modes suggest substantial clustering, most often around this immediate time frame. However, the standard deviations show that there is a somewhat wider distribution of responses related to a few of the trends, including long-term landscape homogenization, species shifts and phonological changes, increasing detachment from the natural environment, and elevation of mining as the new resource economy.

Table 13: Summary Table for Question One*For this trend, [trend], what is the crucial time frame?**Possible Responses: 1 = 1-10 years, 2 = 11-20 years, 3 = 21-50 years, 4 = 51-100 years, 5 = More than 100 years, 6 = Don't know*

Trend	Topic	Mean¹	Mode	SD¹	n	"don't know" responses #(%)
Not as effective in implementation of the NE Landscape Plan	Administration and Funding	1.00	1	0.00	18	6 (33.00%)
Increased political assertion by tribes	Tribal Trends	1.05	1	0.24	17	0 (0.00%)
Increased use of forest management guidelines	Water and Fisheries	1.11	1	0.33	19	2 (10.53%)
Ecological classification systems used by managers differ	Ecological Health and Condition	1.13	1	0.35	17	2 (11.76%)
Increase in mining pressure	Development and Ownership	1.18	1	0.39	18	1 (5.56%)
Need for collaboration	Wildlife	1.22	1	0.55	18	0 (0.00%)
Declining forest products industry	Forest Products	1.24	1	0.56	18	1 (5.56%)
Increased tribal capacity to exercise vested rights on the landscape	Tribal Trends	1.25	1	0.58	19	3 (15.79%)
Declining moose populations	Wildlife	1.26	1	0.45	19	0 (0.00%)
Need for more collaboration	Administration and Funding	1.28	1	0.75	19	1 (5.26%)
Increasing awareness of the need for management	Forest Products	1.35	1	0.49	18	1 (5.56%)
Elevation of mining as a new resource economy	Economic	1.40	1	1.12	19	4 (21.05%)
Increasing water temperature	Water and Fisheries	1.41	1	0.62	19	2 (10.53%)
Positive feedbacks between invasives plus interactions with human disturbances	Invasive species	1.44	1	0.78	19	1 (5.26%)
Increasing storm intensity	Water and Fisheries	1.50	1	0.65	19	5 (26.32%)
Hard rock / new mining	Demographics	1.53	1	1.06	18	3 (16.67%)
Aging population	Demographics	1.53	1	0.64	19	4 (21.05%)
Changing markets resulting in changing management	Economic	1.56	1	0.70	19	1 (5.26%)
Increases in insect outbreaks and new insects due to climate change and other factors	Invasive species	1.56	1	0.70	19	1 (5.26%)

Increase in small parcel size	Development and Ownership	1.59	1,2	0.62	19	2 (10.53%)
Declining cold water fish populations	Water and Fisheries	1.65	1	0.79	19	2 (10.53%)
Uncertainty is increasingly recognized	Climate Change	1.67	1,6	0.89	19	7 (36.84%)
Increasing diversity of expectations for recreational opportunities	Tourism and Recreation	1.72	2	0.67	19	1 (5.26%)
Changes in forest management and fire affecting wildlife habitat and populations	Wildlife	1.78	1	0.94	18	0 (0.00%)
Increasing detachment from the natural environment	Tourism and Recreation	1.82	1	1.19	19	2 (10.53%)
Shifts in mega-fauna	Wildlife	1.83	2	0.62	19	1 (5.26%)
Decreasing anglers	Water and Fisheries	1.87	2	1.06	19	4 (21.05%)
Changing forest products	Forest Products	1.89	2	0.68	19	1 (5.26%)
Species shift and phenological changes	Climate Change	2.28	1,3	1.23	18	1 (5.26%)
Long-term landscape scale homogenization	Ecological Health and Condition	2.55	6	1.37	17	6 (35.29%)

¹ Value 6 (Don't know) is removed from mean and SD calculation to capture mean and standard deviation of time scale responses.

Table 14 summarizes the second key pad voting question related to how important it is to address the identified trend in the Northeast Landscape Plan Update on a scale of one to ten (ten being the most important). The table is sorted on the average (mean) response. The average vote for nearly all of the trends (28 of 30) is five or greater, indicating many respondents felt the trends identified in this process are relatively important to address in the Northeast Landscape Plan Update. For a few key trends, the standard deviations suggest that there is some variation in perspective on whether they should be addressed in the plan. First, mining seems to be an issue of some debate, with relatively high standard deviations relative to the importance of addressing demographic impacts associated with hard rock/new mining activity and the elevation of mining as the new resource economy. Second, long term landscape homogenization is another trend for which there is wider variation in perspective. Finally, the presence of differing ecological classification systems used by managers also shows some variation in perspective. Many of the top trends, those receiving a mean value of eight or higher, are related to forest health and the forest industry, or collaboration and management. These top trends are not surprising given that throughout the process participants have stressed the importance of collaboration among agencies to manage the landscape, and the changing nature of the forest products industry. Notably, mining is present among those issues deemed most important, even though the previous expert presentations did not focus on this topic. Addressing the “increase in mining” pressure received an average vote of 7.74, and of the 19 respondents nine stressed that it was very important to address (see Figure 16, pg 14). In addition, administration and funding issues rose to the top as key issues to be addressed in the plan update, with both of the associated trends showing up among the top six trends.

Table 14: Summary Table for Question Two

How important is it to address [name of trend] and its implications in the Northeast Landscape Plan Update? (Possible responses: scale of 1 not important to 10 very important)

Trend	Topic	Mean	Mode	SD	n
Changing markets resulting in changing management	Economic	8.50	10	1.46	16
Not as effective in implementation of the NE Landscape Plan	Administration and Funding	8.26	10	2.21	19
Increases in insect outbreaks and new insects due to climate change and other factors	Invasive species	8.16	10	1.98	19
Declining forest products industry	Forest Products	8.12	10	2.62	19
Increased use of forest management guidelines	Water and Fisheries	8.11	10	2.11	19
Need for more collaboration	Administration and Funding	8.02	10	2.30	19
Need for collaboration	Wildlife	8.00	10	2.24	19
Species shift and phenological changes	Climate Change	7.89	8	2.26	19
Declining moose populations	Wildlife	7.84	8	2.34	19
Increase in mining pressure	Development and Ownership	7.74	10	2.70	19
Increasing awareness of the need for management	Forest Products	7.74	8,10	2.08	19
Changes in forest management and fire affecting wildlife habitat and populations	Wildlife	7.68	8	2.11	19
Positive feedbacks between invasives plus interactions with human disturbances	Invasive species	7.53	8	2.37	19
Increased tribal capacity to exercise vested rights on the landscape	Tribal Trends	7.53	10	2.65	17
Increase in small parcels	Development and Ownership	7.47	10	2.61	19
Increasing water temperature	Water and Fisheries	7.37	8	2.54	19
Increased political assertion by tribes	Tribal Trends	7.26	10	3.18	19
Increasing storm intensity	Water and Fisheries	6.72	10	3.10	18
Declining cold water fish populations	Water and Fisheries	6.63	10	3.17	19
Ecological classification systems used by managers differ	Ecological Health and Condition	6.58	10	3.69	19
Elevation of mining as a new resource economy	Economic	6.58	10	3.55	19
Shifts in mega-fauna	Wildlife	6.53	8	2.46	19
Uncertainty is increasingly recognized	Climate Change	6.26	10	3.33	19

Increasing diversity of expectations for recreational opportunities	Tourism and Recreation	5.89	6,7	1.81	18
Hard rock / new mining	Demographics	5.80	10	3.54	19
Changing forest products	Forest Products	5.68	5	2.43	19
Long-term landscape scale homogenization	Ecological Health and Condition	5.21	5,10	3.58	17
Increasing detachment from the natural environment	Tourism and Recreation	5.12	3	2.69	19
Aging population	Demographics	4.58	8	2.65	19
Decreasing anglers	Water and Fisheries	3.11	1	2.54	18

Limitations

As with all facilitated stakeholder processes, a few challenges and limitations emerged. Overall, the Trends Exploration Workshop and its presentations, activities, and questions were designed to illicit responses from participants toward the end goal of identifying and prioritizing trends and implications relative to the northeast landscape and the plan update process. The conversations were facilitated, but intended as free-flowing and flexible, which meant that in some cases groups identified important information relative to a topic, and the landscape plan update, but not necessarily a trend. For example, in the Administration and Funding discussion participants stated one trend as “not as effective in implementation of the NE Landscape Plan”. This “trend” ranks high in the priority of trends to be addressed in the landscape plan update (see Table 13), but it is more difficult to interpret than a more straightforward trend such as declining moose population, identified in the Wildlife discussion. The variation in phrasing for some of the trends proved difficult for the key pad voting activity given the framing questions, especially at the beginning of the voting as participants were getting used to the format.

In addition, because participants were unable to participate in all of the small group topic discussions, some participants were confused by the language or felt they did not have enough information to make an informed vote. Additionally, some participants raised concerns about the challenge of voting on a very large number of items. Relative to the first question about the the crucial time frame, there was some confusion relative to whether the question referred to the timing of when the trend would occur or when it would need to be addressed. The latter was intended as the focus of the question and there was some discussion of this issue during the key pad voting phase of the workshop. Relative to the second question of how important it was to address the various trends in the update of the Northeast Landscape Plan, some participants noted a desire to have a “don’t know” option, which would have allowed them to “pass” on trends that were less familiar with. The Boreal Forest and Community Resilience Team explicitly decided against a “don’t know” option for this question, in order to maximize the number of votes used to assess the priority of the various trends. Finally, an additional challenge is that not all of the members of the Planning Committee were able to attend the workshop meeting, due to other commitments. They discussion and key pad voting outcomes reflect only the responses of those who were able to participate in the meeting.